NEW

Nikon for Beginners

30+ in-depth tutorials

Everything you need to know to get to grips with your Nikon DSLR

- ✓ Master all of the essential settings
- ✓ Learn how to shoot stunning images
- ✓ Enhance your shots and edit to perfection

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Welcome to

Nikon for Beginners

Just got your first Nikon camera? Or looking to buy one soon? Maybe you're just hoping to improve your camera skills and get back to basics. Nikon for Beginners is a 164-page guide containing everything you need to know to get to grips with your Nikon DSLR and take better pictures. Being good at the basics will help you improve quicker at the harder stuff as you progress later. We've included an in-depth guide to Nikon camera functions as well as informative explanations about settings and shooting technique. Learn to capture stunning landscapes, perfect portraits and sharper shots. Follow our in-depth step-by-step tutorials on everything from composition to simple studio setups, macro and so much more. If that wasn't enough delve into our troubleshooting section where we identify common mistakes and how to fix them.

Nikon
BATTERY CHARGER MH-24
CHARGE
END
Nikon
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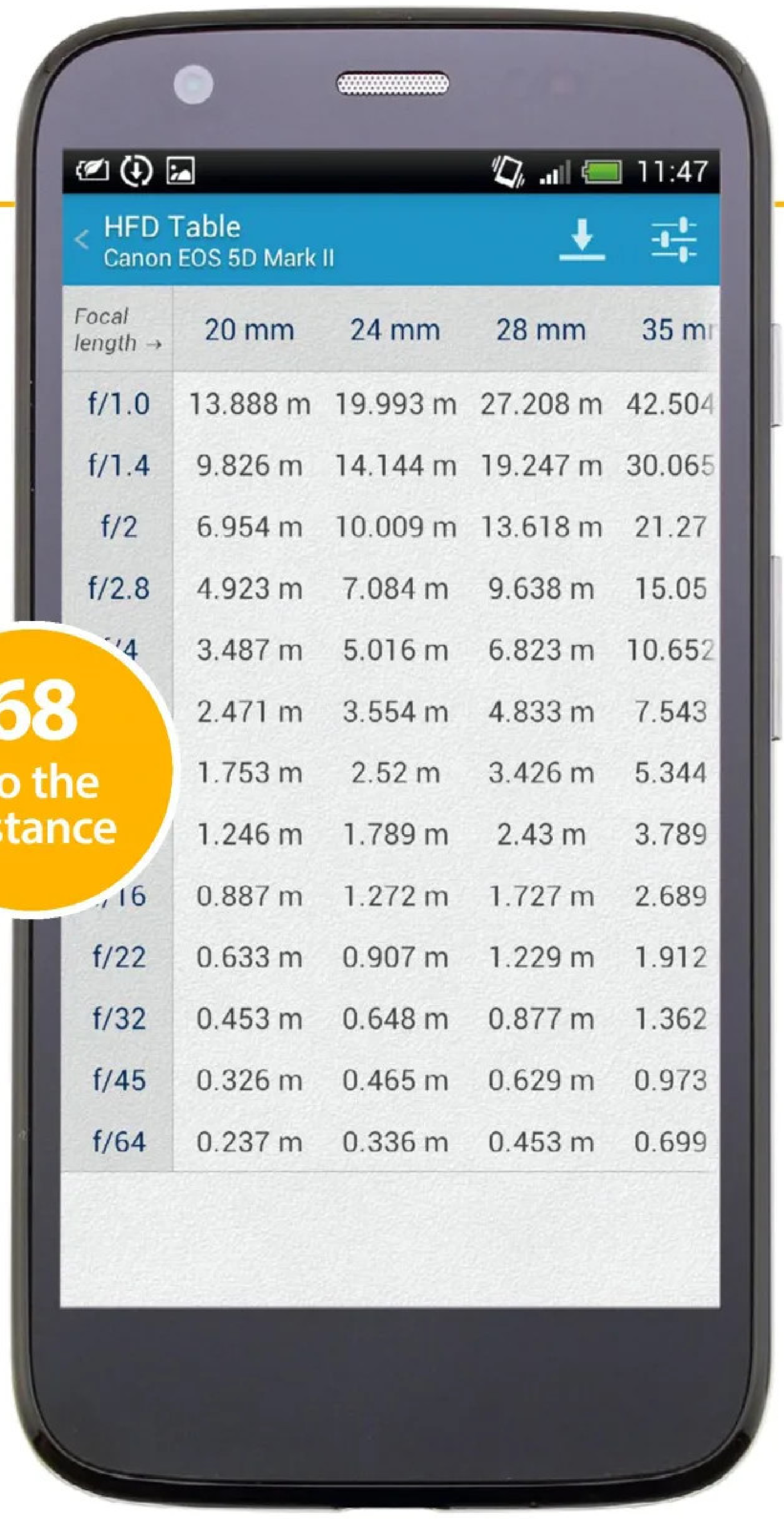

HFD Table
Canon EOS 5D Mark II

Focal length →	20 mm	24 mm	28 mm	35 m
f/1.0	13.888 m	19.993 m	27.208 m	42.504
f/1.4	9.826 m	14.144 m	19.247 m	30.065
f/2	6.954 m	10.009 m	13.618 m	21.27
f/2.8	4.923 m	7.084 m	9.638 m	15.05
/4	3.487 m	5.016 m	6.823 m	10.652
	2.471 m	3.554 m	4.833 m	7.543
	1.753 m	2.52 m	3.426 m	5.344
	1.246 m	1.789 m	2.43 m	3.789
/16	0.887 m	1.272 m	1.727 m	2.689
f/22	0.633 m	0.907 m	1.229 m	1.912
f/32	0.453 m	0.648 m	0.877 m	1.362
f/45	0.326 m	0.465 m	0.629 m	0.973
f/64	0.237 m	0.336 m	0.453 m	0.699

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Quick guide to Nikon cameras

Read our insider guide to this advanced system and learn to pick your perfect Nikon

Choosing a DSLR camera is a big decision. You are committing to a camera system, which represents a significant financial investment. Due to issues of compatibility of lenses, flashes and accessories, when you have actually purchased your new camera, you will be unable to use your products on other brands of equipment, meaning you need to be completely comfortable with your choice.

Nikon is a company with a long history of pioneering photographic technology, having been an industry leader for a century. Today it is seen as one of the 'big two' camera manufacturers, in competition with Canon. While every brand produces high quality cameras and lenses, the Nikon system is popular for several main reasons. From a handling perspective, even entry level Nikon DSLRs feel rugged and well balanced, instilling confidence when working in more challenging conditions. On higher-end models, there are excellent levels of weather sealing, especially when cameras are paired with pro-spec lenses.

For many photographers the Nikon lens system itself is reason enough to use Nikon cameras. There are just such a huge variety of high quality optics on-hand, spanning all areas of photography, from wide-angle to super telephoto; from macro to perspective correction (tilt/shift).

Furthermore, there is the Nikon Creative Lighting System (CLS), a comprehensive network of flash lighting accessories and functions, interconnected by a dedicated wireless arrangement. This allows dynamic off-camera flash setups, for complex lighting effects. Beyond product availability, Nikon offers excellent upgrading potential, once your skills and function requirements develop. There is also exhaustive system support, meaning products will continue to be improved and updated for many years. With a solid understanding of Nikon technologies and how these can benefit your evolution as a photographer, you will be able to decide which products to start with and those to aspire to own.

System variety

The Nikon system incorporates all of the key types of camera popular today, from crop, full frame DSLRs and action models; with a mirrorless to come. This provides solutions for any requirement and budget.

Nikon
D7200
AF-S NIKKOR 18-105mm 1:3.5-5.6G ED
DX Nikon
VR
18 24 35 50 70 105

Understand Nikon DSLRs

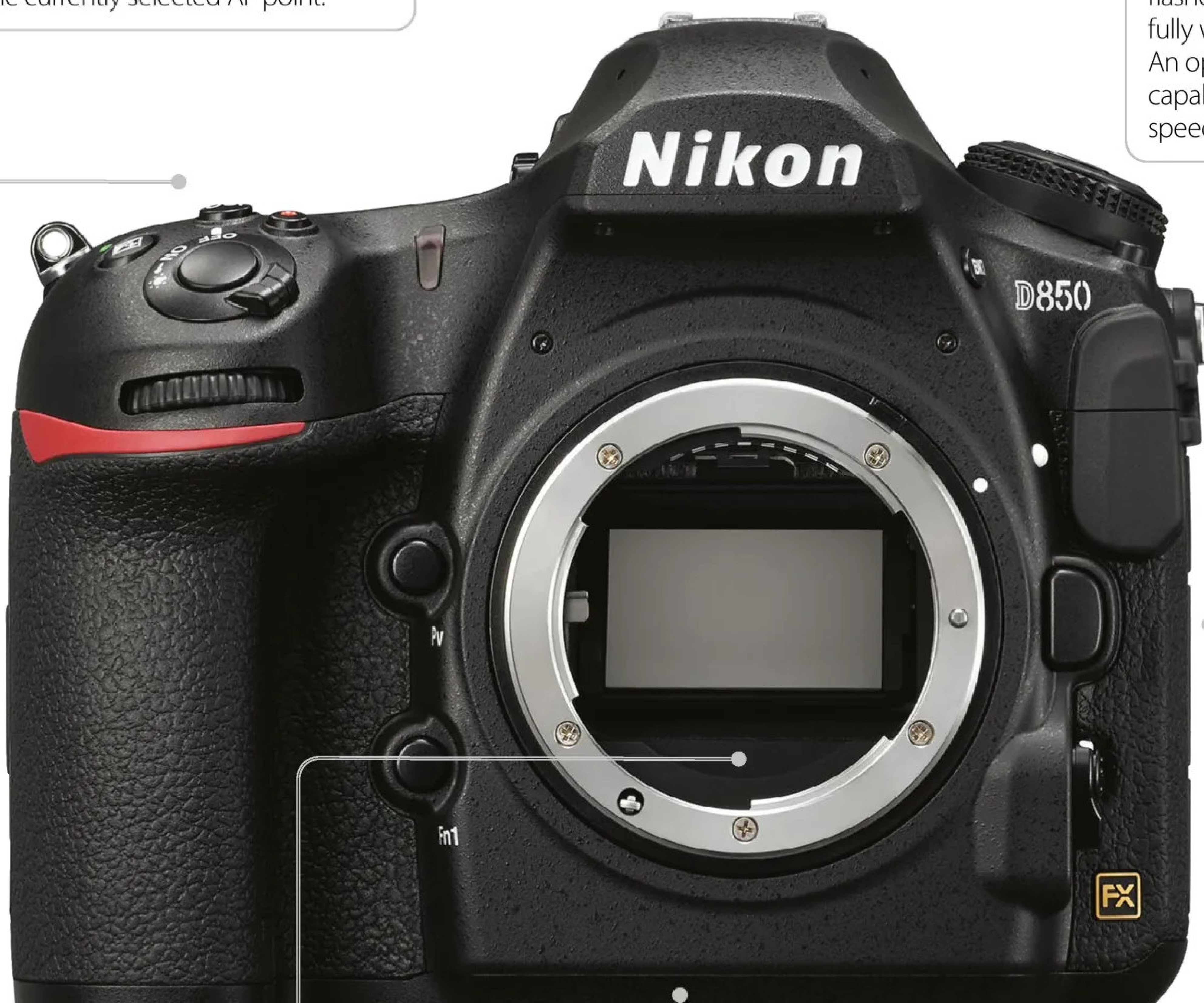
Cut through the jargon and get to know the Nikon system for informed buying decisions.

As one of the most comprehensive systems, there is a Nikon DSLR for users of any skill level. From the entry level D3400 or D5600, through to the semi-professional D7500 and D750, to the top-of the range D850 and D5, the varied specifications allow a highly tailored approach to buying. One of the first choices a prospective Nikon user must make is whether to invest in a DX or an FX format body.

Traditionally beginners would start with the smaller, DX sensor format due to the more economical price, lower weight and dimensions and more manageable specification. Since full frame/FX is preferred by professionals, these cameras tend to feature a potentially daunting number of advanced features, which can make the introduction to DSLR photography less enjoyable.

The FX sensors do allow a higher resolution and better noise performance, but this may not be overly beneficial under the conditions beginners will commonly find themselves shooting. Whilst resolution is important, any pixel count over 24MP is more than enough for general purpose use and prints up to 16x12".

All models come with an Expeed image processor, for fast handling of image files. High-end cameras use more advanced autofocus capabilities, with more AF points covering the frame, for precision. While the D5600 uses 39 points, the D5 has 153. The pro systems also use a greater number of cross-type points, which are more sensitive and accurate. Cameras such as the D5 also have some points which are usable with lenses which have a maximum f8 aperture. HD video is common system-wide, with 4K shooting possible at the top of the range.



Large, bright viewfinder
One of the advantages of the full frame format is that the camera's viewfinder is significantly bigger than those available on APS-C models. The D850 pictured here, features a 100% coverage, meaning the viewfinder image shows the entire lens's field of view. It also has a 0.75x magnification, so that subjects appear 75% of their true size – higher than any other Nikon DSLR. Digital overlays provide shooting information, such camera settings, image counter and the currently selected AF point.

Hot shoe
The standard Nikon attachment for compatible speedlight flashes and accessories. As with many professional DSLRs, the D850 is missing a built-in flash, to increase structural integrity and weather proofing. This means external units must be used. Photographers can choose to use Nikon-branded models or third party flashes, although only the former integrates fully with the Nikon Creative Lighting System. An optional flash trigger or a commander-capable flash is required to trigger wireless slave speedlights, for more advanced lighting effects.

High ISO capability
Even though the D850 features 45.7 million pixels, the combination of the full frame sensor and advanced in-camera image processing, produces images with low grain, even at high sensitivities. The native ISO range of the D850 extends from 64 to 25, 600, which can be increased to 102400. This is lower than the ISO 1640000 on the D7500, but these ultra-high settings have limited usability on any model and the D850 still outperforms the DX format.

Touch sensitive LCD
As is becoming the standard for Nikon DSLRs, the D850 uses a touchscreen. This allows menus to be navigated interactively and images to be scrolled in a similar fashion to when using a smartphone. Images can also be quickly zoomed using a pinch and zoom gesture, for rapid quality control. While the DX format D7500's LCD is also touch-sensitive, the D850 has more than double the resolution at 2,359, 000 dots. This LCD is also articulated for easier composition.

FX Sensor
Nikon refer to full frame cameras as FX format models. The 35.9 x 24mm sensor is equivalent in size to 35mm film – significantly bigger than APS-C (DX) sensors. The larger size allows pixels to be bigger and more numerous, for higher resolution, but with minimised image noise and higher dynamic range (capture of detail in very bright and dark areas). To take advantage of FX sensors, FX lenses need to be mounted, such as the AF-S Nikon 14-24mm f2.8G ED.

Magnesium alloy body
While entry level cameras such as the D3400 feature a largely polycarbonate body, professional-level models such as the D850 and D5 employ metal, notably magnesium alloy, as the primary construction material. This offers greater ruggedness and better weather sealing, for use in a broad range of climates and conditions. This does add weight, so reduces portability, but is essential for demanding, professional use, on a daily basis. Ports and connection terminals are covered by rubberised panels, for sealing continuity.

Top plate LCD

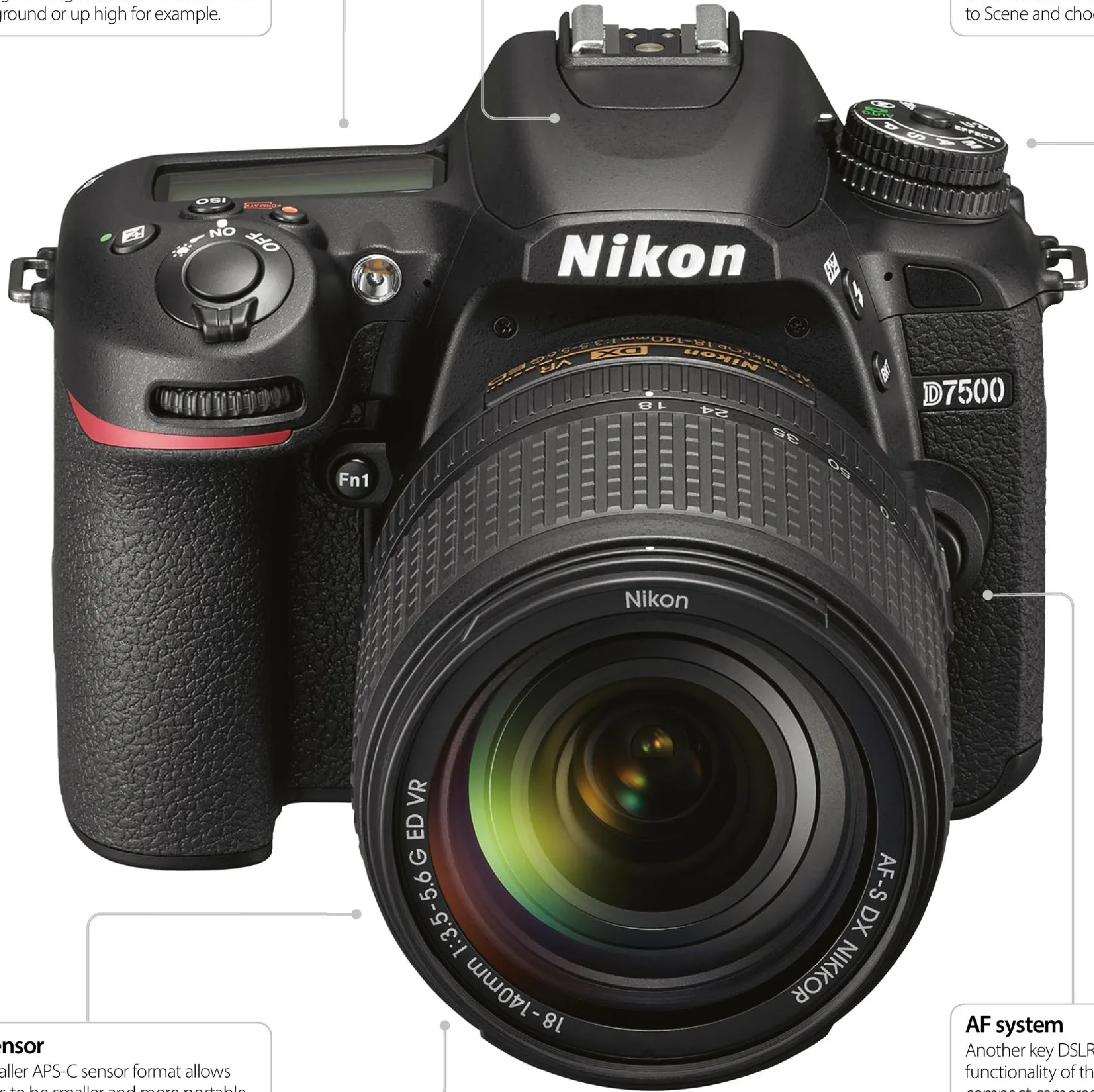
A staple of most enthusiast and pro cameras, this extra screen provides a rapid reference to camera settings, on the move. Shutter speed, aperture, ISO, metering mode, white balance and remaining images on the memory card are continuously displayed, along with other parameters, so that the rear LCD does not have to be active at all times. This saves battery life and also makes it easier to change settings when the camera close to the ground or up high for example.

Built-in flash

Entry-level and enthusiast level cameras have a flash unit built in. While not as powerful or versatile as an external speedlight, this can be useful for adding subtle fill light to portraits. Flash output can be controlled using flash exposure compensation. An additional benefit is that the integral flash can be assigned as a trigger for remote flashguns, instead of having to purchase additional accessories. The power of each speedlight can be controlled individually from the camera, for ease and speed.

Scene modes

While professional photographers will most often want to take complete creative control over the production of their images, using manual modes, beginners may want some assistance. Scene modes offer a compromise between creativity and ease of shooting, taking control over most settings, while tailoring these to the photographers requirements. Whether you need to shoot fireworks, landscapes or night cityscapes, there is a scene mode to fit. Simply set the mode dial to Scene and choose a mode from the menu.



Crop mode on Full Frame

While other DSLR systems don't allow APS-C lenses to be fitted on full frame cameras, due to the lens depth within the camera body, DX Nikon lenses are physically compatible, using the same F-mount and place the camera in DX crop mode automatically. Resolution is reduced but system versatility is maintained.

DX Sensor

The smaller APS-C sensor format allows cameras to be smaller and more portable, making these models ideal for travelling light and shooting discreetly. While not as capable in extremely low light, the DX sensor provides additional speed and convenience for sports and action photographers, introducing a 'crop factor' – additional magnification from the fitted lens. Not only are optics smaller, but they offer 1.5x the stated focal length; a 300mm lens will prived the equivalent of a 450mm full frame model.

Lightweight body

Although the D7500 and models below it in the Nikon range are not as robust as the professional series cameras, the toughened plastic construction is more than adequate for use in an array of shooting situations. Models in this range are favoured by professionals as a second camera, with which to travel, due to the weight benefits. When paired with a fast prime lens, like a 50mm, you'll be able to capture gallery-worthy prints on the go, free from fatigue.

AF system

Another key DSLR advantage is in the functionality of the autofocus. While compact cameras, CSCs and smartphones use contrast-detection AF (where the camera looks for edges in the scene), DSLRs use dedicated phase-detection AF sensors. This offers more responsive focus times, complimented by greater accuracy. Different Nikon cameras use various AF modules, but often share technology. The D7500 provides 51 selectable AF points – more precise than the D3400's 11 point array, though less advanced than the D500/D5's Multi-CAM 20K system.

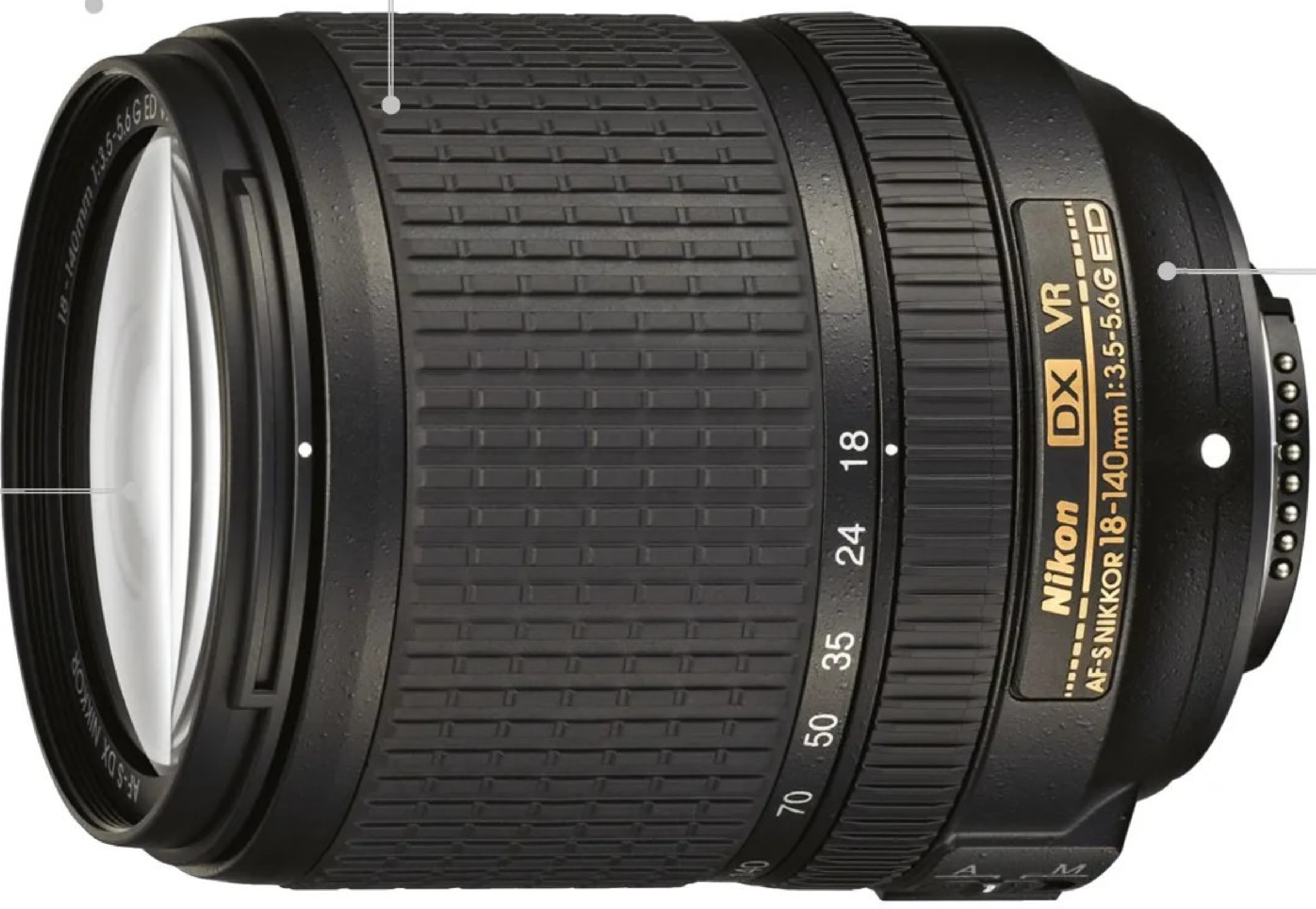
Get to know Nikon lenses

Become an expert on Nikon lens technologies and learn how and why these benefit your photography

When using high resolution cameras, it is essential to pair these with high quality lenses, as any deficit in sharpness will become immediately obvious. Arguably, the optics of a system are the most important components, since without 'good glass' the effective resolution of any sensor cannot be realised. Luckily, Nikon lenses use a variety of advanced optical designs and technologies, for maximum sharpness and functionality. The baseline defence against optical distortions are Extra-low Dispersion and aspherical glass (see annotations) but there are many other features employed by Nikon.

Many lenses use the company's exclusive Super Integrated Coating (SIC) – a multi-layered coating, which is applied to lens surfaces for improved colour reproduction. Fluorite and Fluorine are two incredibly popular materials in photographic lens construction, for increased clarity and grease resistance respectively. These are denoted by the FL and FC suffixes.

Even lens shape can have an impact on image quality – in some models, a curved element known as a meniscus protective lens (ML) is inserted towards the front of the lens, to reduce internal reflections and ghosting effects for clarity. Beyond the glass, higher-end lenses also employ a rounded aperture diaphragm (RD), which produces a more attractive background blur known as bokeh – especially critical in shallow depth-of-field portraits. Within the lens ranges, there are types designed for every possible photographic assignment, including wide-aperture telephotos for portraits and sports, to the PC-E collection for architecture specialists. Here you will find some examples of the most popular Nikon offerings.



Filter thread

Attach optional filters using this screw thread. The AF-S DX NIKON 18-140MM f3.5-5.6G ED VR lens shown here features a 67mm thread, allowing conveniently sized UV and polarizing circular filters to be added, along with a huge range of other models for different effects. Many photographers choose to keep a UV or skylight filter in place at all times to protect the front lens element from damage. Adaptor rings allow use of square neutral density filters for example.

Aspherical glass

Many lenses in the Nikon range use some glass elements with an aspherical design in their construction. Spherical lenses produce unavoidable distortions at the periphery of the images they project, due to the angle of their surfaces making up part of a sphere. Any glass which does not conform to this shape is aspherical and the inclusion of one or more elements improves centre-to-edge image quality. Another benefit of using these is a reduction in lens size and weight.

VR

Many Nikon lenses feature Vibration Reduction technology, which allows the camera setup to be handheld at much slower shutter speeds than would otherwise be possible, while still creating sharp images. On this lens, up to 4 stops of reduction is possible, while other lenses provide lower of greater VR performance. VR is activated automatically when the shutter button is half pushed for focussing. Some Nikon optics feature advanced VR modes, such as Active mode, for shooting from a moving vehicle.

SWM Drive

Nikon lenses with the AF-S prefix are fitted with a Silent Wave Motor, which makes use of travelling waves to drive the rotational movement of the focussing mechanism, moving the glass elements to focus the lens. This offers speed and accuracy advantages over traditional autofocus motors and is also generates a very low noise footprint, allowing the capture of easily startled wildlife subjects, or the discrete study of people, for documentary and street photography. Full-time manual focussing is also possible.

Must have glass

Explore the Nikon lens range and learn which optics you should consider for your kitbag

AF-S NIKON 50MM F1.8G

The 50mm lens is the universal 'standard' optic, offering a roughly equivalent field-of-view to the human eye. Versatile, bright and affordable, it will find a use in most photography genres.

AF-S VR ZOOM-NIKON 70-300MM F4.5-5.6G IF-ED

While not as high in quality as a 70-200mm f2.8 pro series lens, the 70-300mm range is extremely useful. The SWM focussing is responsive and weight is low.

AF-S NIKON 14-24MM F2.8G ED

Large, heavy and expensive, this is the ultimate wide-angle lens for FX DSLRs. Perfect for landscapes and architecture. Alternatively, try the AF-S DX NIKON 10-24mm f3.5-4.5G ED.

AF-S VR Micro-Nikon 105mm f2.8G IF-ED

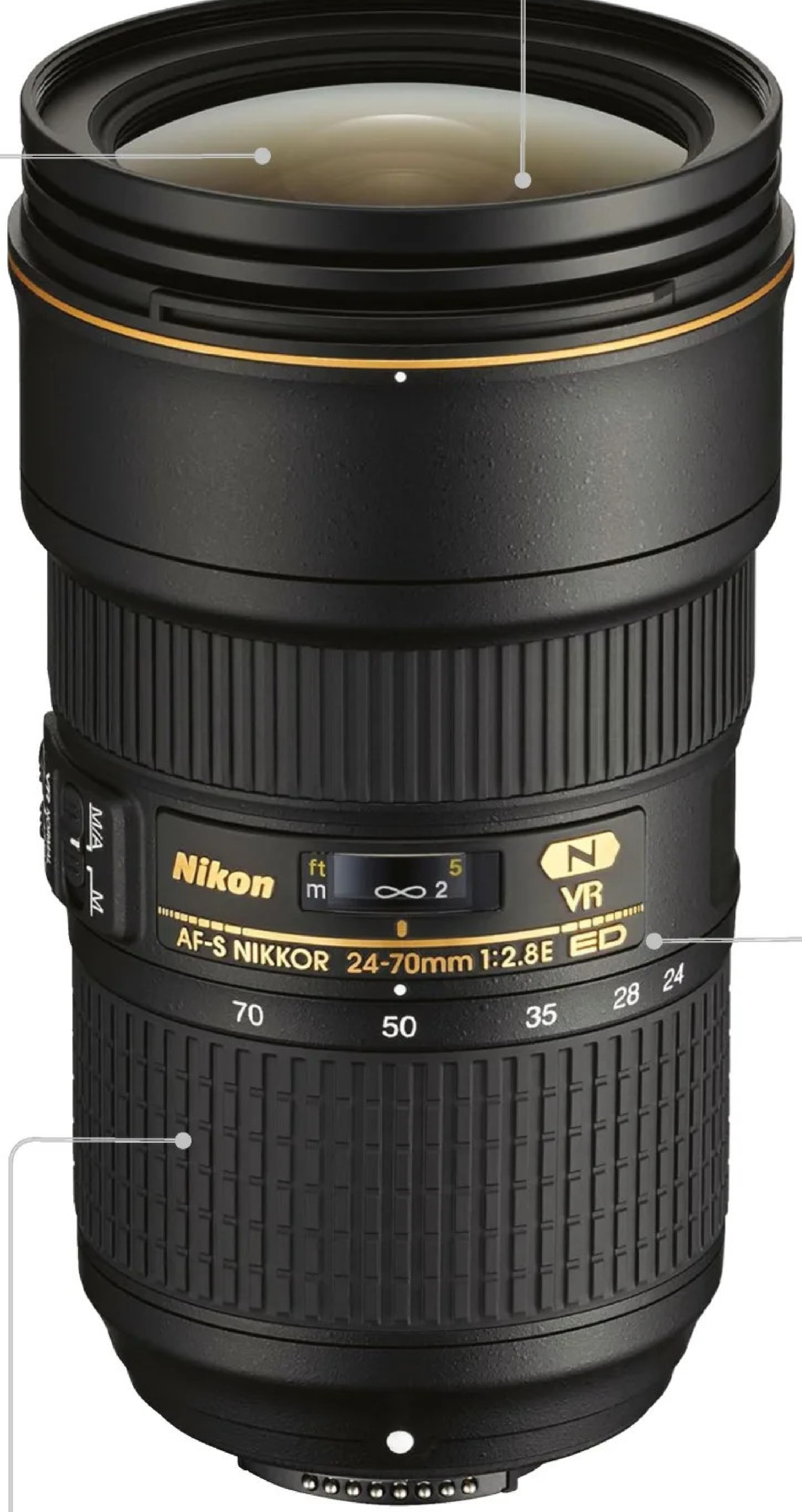
Experiment with macro photography with this long-time favourite. VR makes handheld close-ups a reality, while internal focussing make close working distances easier.

ED glass

Extra-low Dispersion glass uses an advanced formula to reduce the Chromatic Aberration (CA) – fringing along high contrast edges. Ordinary glass elements have trouble keeping all wavelengths of light focussed at a single point, resulting in separation of colours and fringing. Through a combination of methods, ED and Super ED lenses are more equipped to overcome this problem, generating sharper images, with more contrast, even at the widest aperture settings.

Nano Crystal coat

This special lens coating uses a material with anti reflective properties, to reduce the occurence of internal reflections. When aiming a lens at a strong light source, some light can bounce back and forth between lens elements, creating flare effects. Present in series optics like the AF-S NIKON 24-70mm f2.8G ED, Nikon's Nano Crystal Coat uses minute crystalised, extra-low refractive index particles, to to prevent the formation of flare.



Internal focussing

Zoom lenses can change size as the focal length and or focus is adjusted. This is clear in long zooms. In lenses with the IF suffix, all movement of lens elements occurs within the lens barrel, so the front does not extend or rotate. This speeds up autofocus, limits lens size and allows filters to be attached in a static position on the front of the lens, without needing to adjust post-focus.

Constant aperture

Nikon lenses use an optical design which maintains a constant maximum aperture throughout the focal length. Entry-level models such as the AF-S DX ZOOM-NIKON 18-55MM F3.5-5.6G ED II or some high-zoom optics, only permit the maximum stated fnumber at their widest setting, meaning a loss of light at the long end. The light gathering benefits of a constant value allows lower light shooting but adds bulk.

Other Nikon camera systems

If a DSLR is not right for you, Nikon offer other cameras, for absolutely any occasion

While Nikon jointly leads in the DSLR market, the company also produces several other ranges of popular imaging products, to cater for photographers with any and all photographic requirements and skill levels. For absolute beginners and those needing an ultra-compact and simplified camera, the Coolpix range of compact digital cameras is ideal.

These models are exceptionally thin in profile, comfortably fitting into a pocket, for effortless transport. Their stripped-back feature specification makes them easy to use and capture high resolution images out of the box. The main disadvantage of compact cameras is their use of a tiny imaging sensor, which limits the quality of photos, especially in low light.

For more advanced shooting, higher zoom ratios and a better handling experience, the Coolpix Bridge cameras are a fantastic alternative. These give the user a step towards pro-level DSLR photography, without the weight and complexity. It is useful to be aware that Nikon bridge cameras still make use of the 1/2.3 in size sensor, found in other Coolpix compacts.

For a more comparable DSLR experience, the Nikon 1 mirrorless lineup provides an introduction to interchangeable lens photography. These cameras utilize a larger sensor, so are able to incorporate higher resolutions, lower image noise and higher ISO sensitivities. Importantly, they also permit shooting of RAW files, opening up an extensive range of image-editing possibilities, not available on the Jpeg images, outu by the bridge models and compacts. Finally, for photography in extreme conditions, Nikon KeyMission action cameras are robust, water and dustproof and importantly, small enough to be wearable.

A new high-spec mirrorless camera was released in August 2018.

Nikon COOLPIX A10
This 16.1MP compact camera offers high resolution, a 5x zoom lens and auto scene recognition, all with an ultra-thin body.

Nikon Coolpix P900
This Bridge offers a massive 83x zoom Nikon lens, armed with Vibration Reduction, for refined telephoto photography.

Nikon 1 V3
Start interchangeable lens imaging with this lightweight CSC, which offers Hybrid Phase-detection autofocus, for greater speed and accuracy.

Nikon KeyMission 360
This durable action camera gives users 360° imaging, water and dust resistance, a shockproof body and 4K UHD video recording.

The main menus

With the menu of a typical Nikon DSLR offering well over a hundred separate settings, it helps to know which to tackle first

The wealth of options in your Nikon DSLR's menu may at first glance seem a little overwhelming, but there are really only a few key settings you initially need to think about.In fact, once the camera is set up, it's surprising how rarely you'll need to enter the menus at all, because most of the key settings can be accessed with the buttons and dials on the camera body. The six steps below reveal the most important settings you need to tweak when you switch on your camera for the first time, or next time...

Exposure delay mode

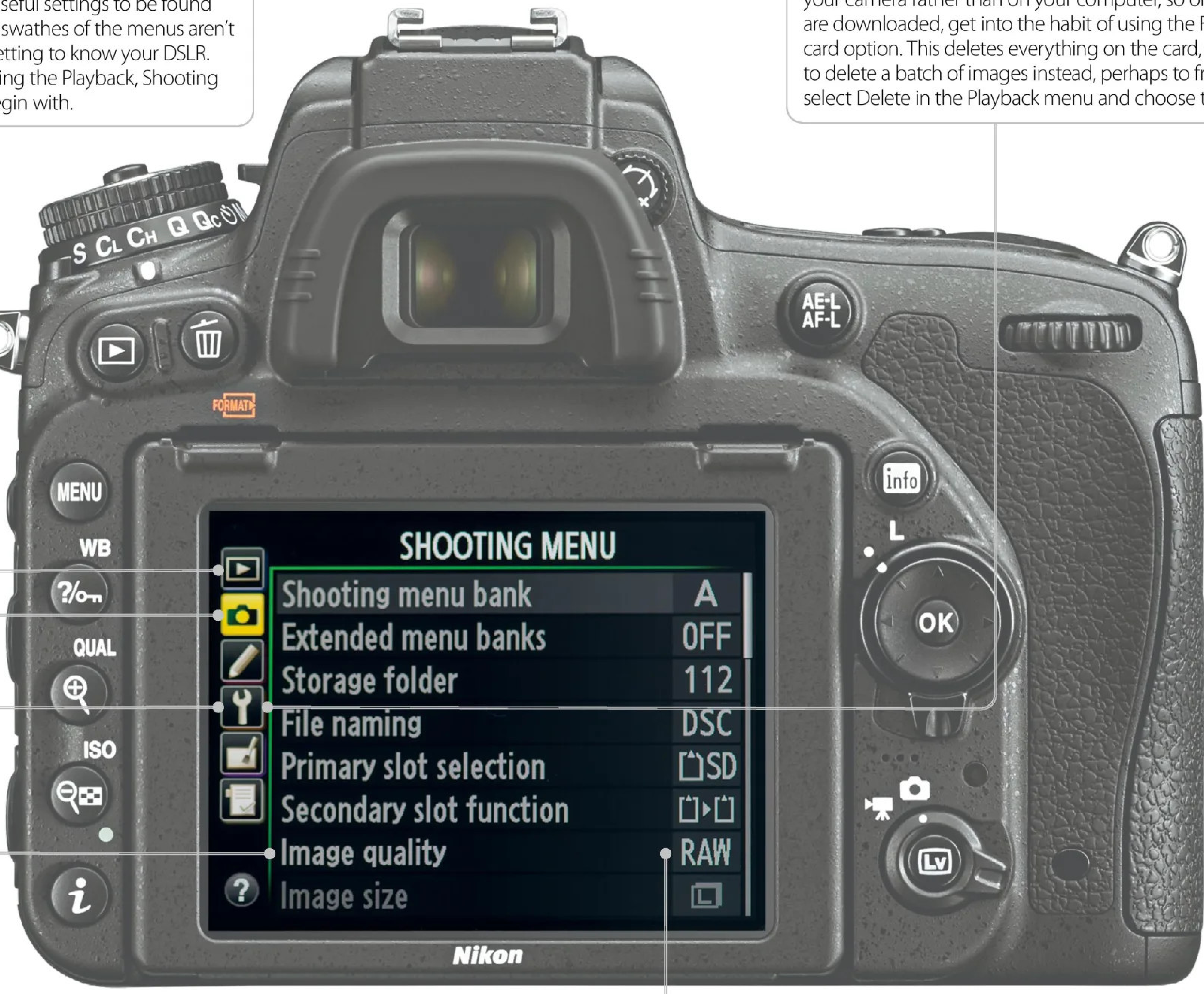
Exposure delay mode is useful any time you might want to use a tripod and a slow shutter speed, for instance when shooting seascapes with a long exposure to smooth out the movement of the water. With anything slower than about 1/60 sec, the act of pressing the shutter release button and the clunk of the mirror may cause unwanted camera movement and soft images. Exposure delay mode, found under Custom Settings>D: Shooting/Display, avoids this problem. Set it to 1, 2 or 3 seconds, and when you press the shutter it will lock up the mirror, then leave a short delay before triggering the shutter.

Main menu icons

The feature set of different Nikon DSLRs varies slightly from model to model, but the menus are very similar. Navigating them is easy. A set of icons on the left of the screen provides access to different sub-menus. There are useful settings to be found throughout, but whole swathes of the menus aren't essential if you're just getting to know your DSLR. We recommend exploring the Playback, Shooting and Setup menus to begin with.

Format memory card

Access this option by choosing the Setup menu (the spanner icon). Formatting cards to remove photos is always best done in your camera rather than on your computer, so once the images are downloaded, get into the habit of using the Format memory card option. This deletes everything on the card, so if you need to delete a batch of images instead, perhaps to free up room, select Delete in the Playback menu and choose the images.



SHOOTING MENU
Shooting menu bank A
Extended menu banks OFF
Storage folder 112
File naming DSC
Primary slot selection SD
Secondary slot function
Image quality RAW
Image size

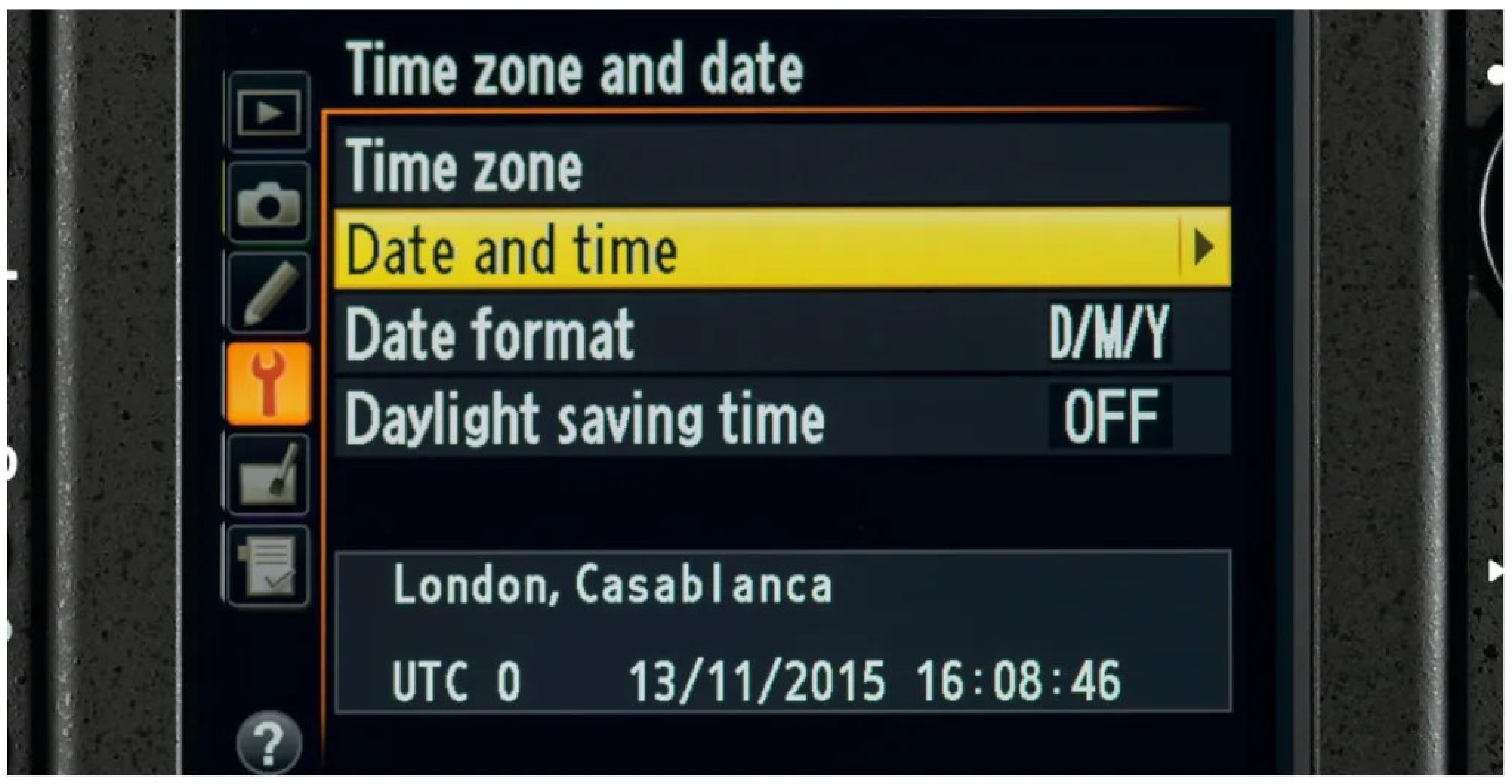
Image quality

The biggest choice when it comes to image quality is JPEG or RAW. If you want to process your photos with editing software such as Photoshop or Nikon Capture NX-D/NX-2, then shoot in NEF, Nikon's RAW format. This produces files with greater dynamic range, which means more detail in highlights and shadows, and gives you more options to tweak things like white balance and colour space. However, JPEGs are smaller and more convenient.

Set picture controls

Scroll through the Shooting menu to reach the Picture Control options. These offer a variety of looks, each differing in colour and contrast. In RAW, the look isn't 'burnt in' to the photo, so you can change it afterwards. For example, if you set image quality to RAW and use the Monochrome Picture Control, the image displayed on the LCD will be mono, but all colour info will be retained in the RAW file. With JPEGs, though, all colour info will be lost.

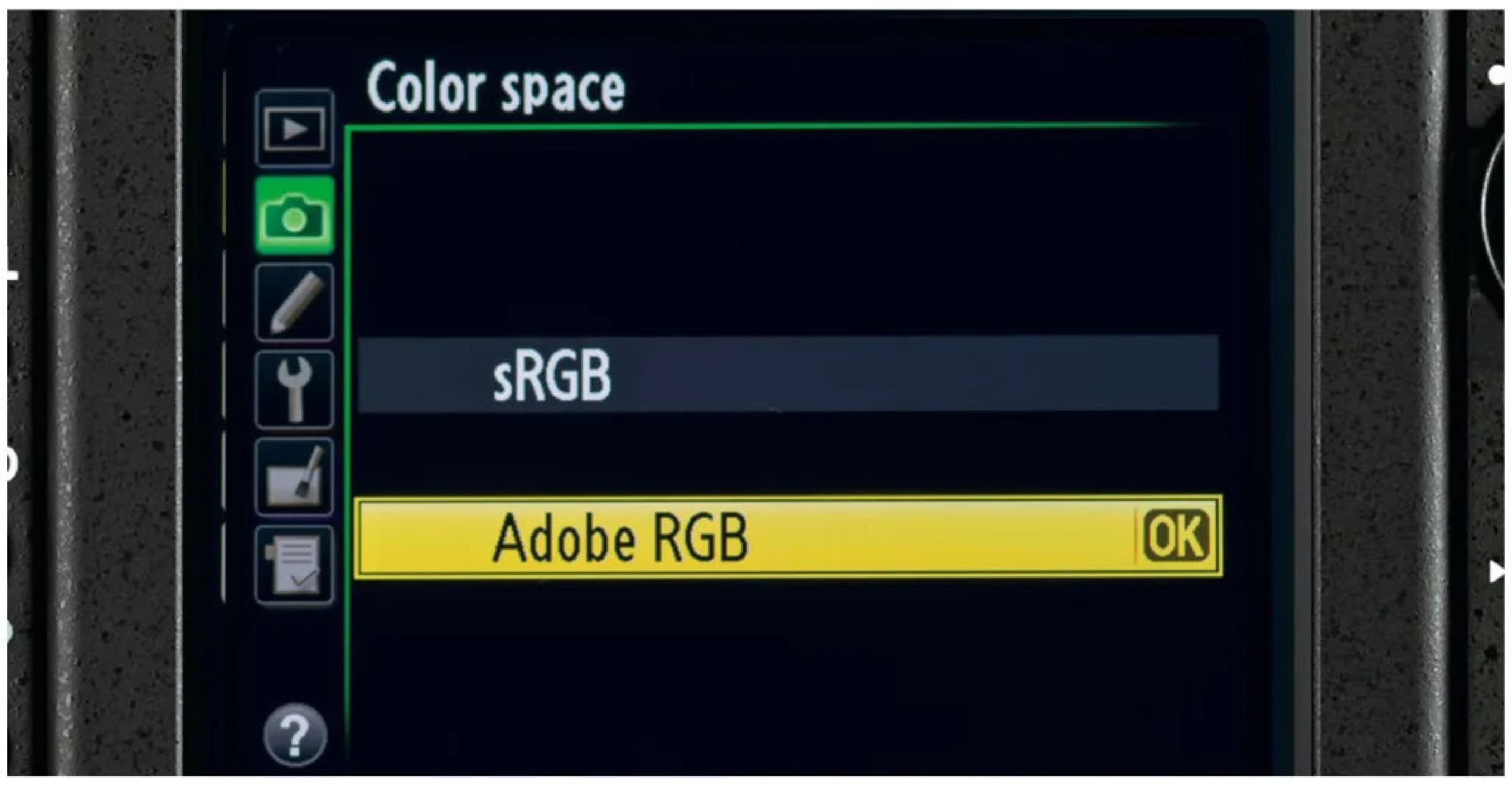
New DSLR? Here's what to tweak in its menus



Date format D/M/Y
Daylight saving time OFF
London, Casablanca
UTC 0 13/11/2015 16:08:46

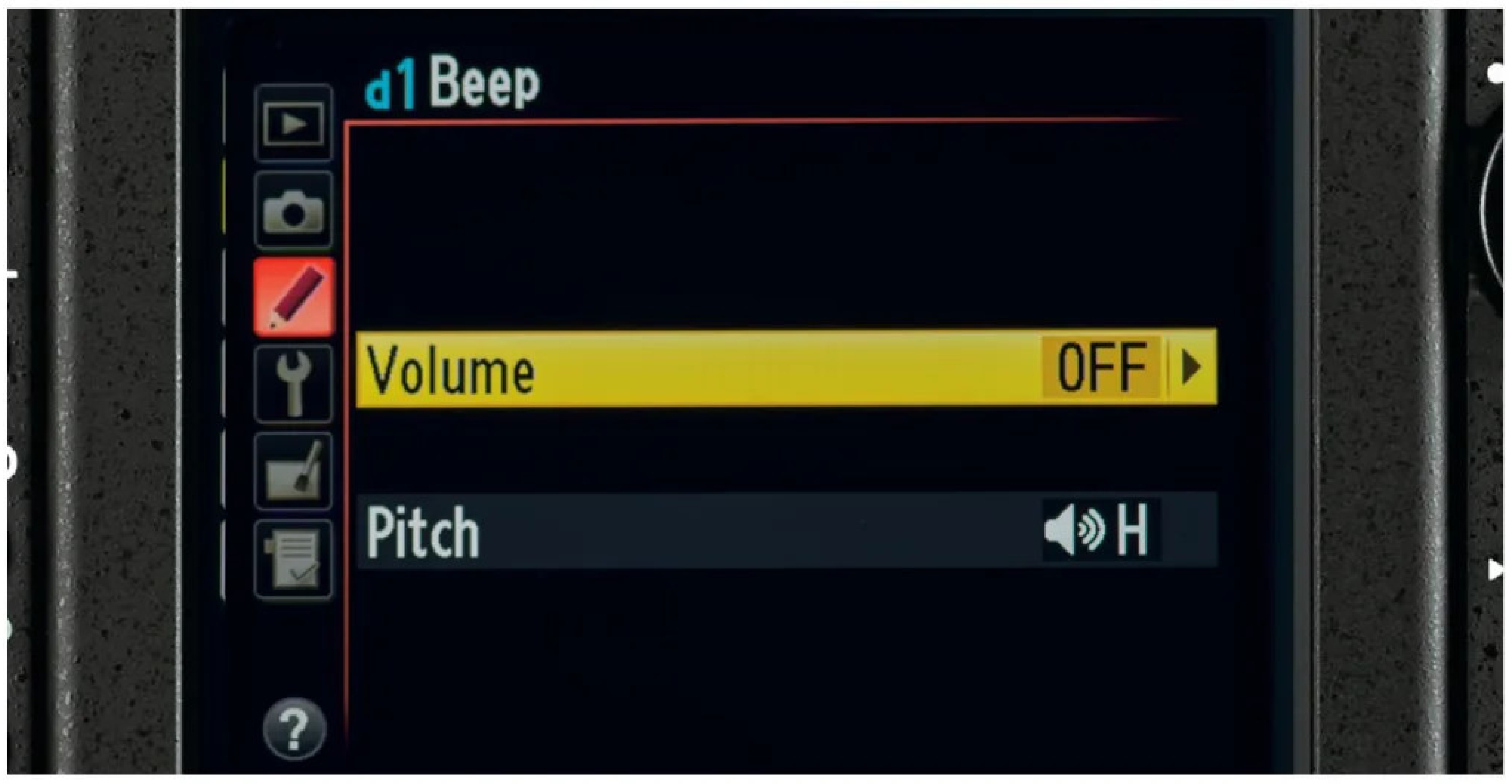
01 Set the date and time Setup>Time zone and date

The date and time of the capture will be embedded in the metadata of every photo you shoot, so set it before you start taking pictures and it will make sorting your images much easier in the future – especially if you'll be bringing images together from different cameras.



02 Choose Adobe RGB Shooting>Color space

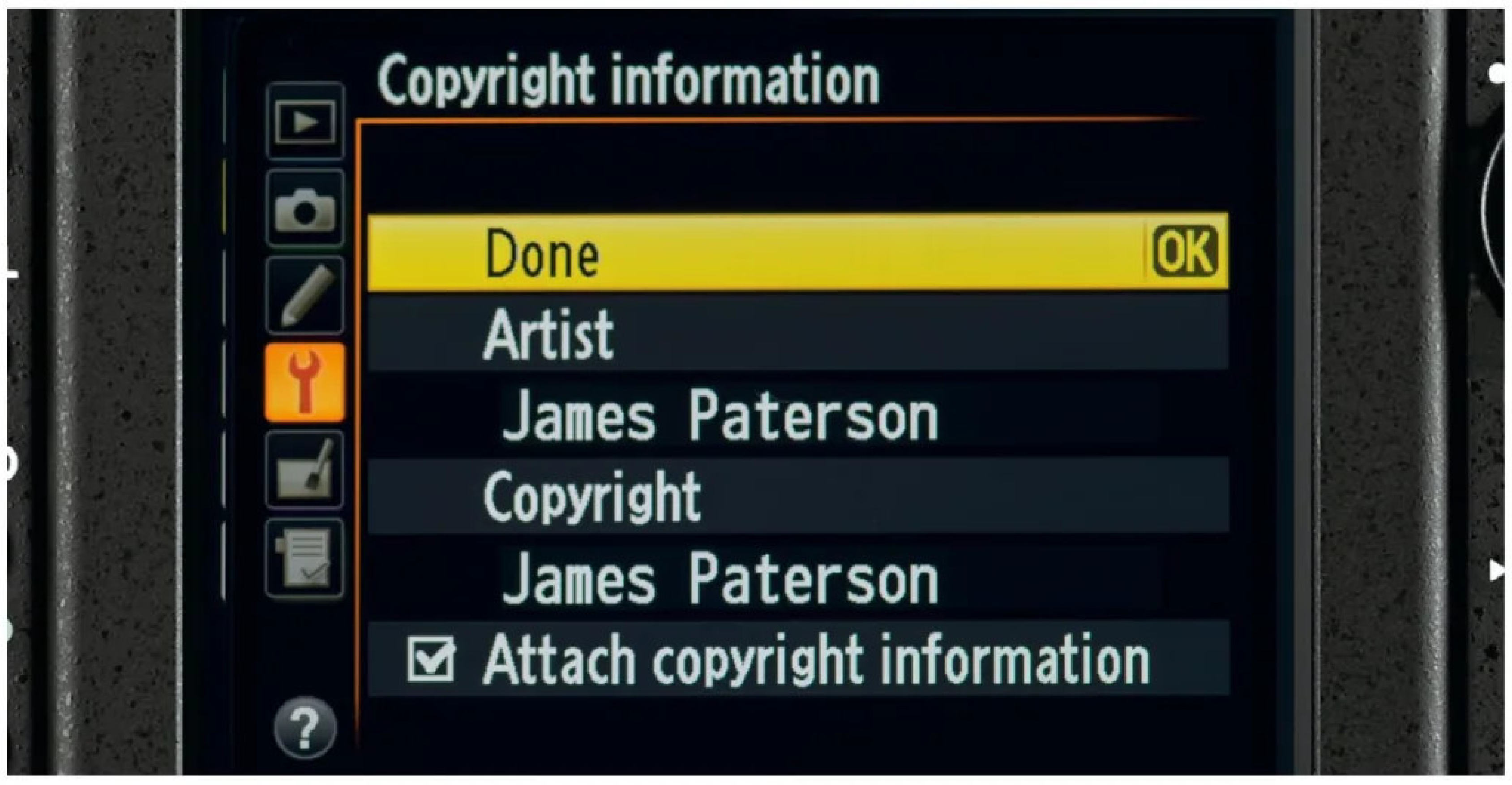
Of the two Color Space choices, Adobe RGB offers a greater colour range and better vibrancy, while sRGB is more universal. Choose Adobe RGB as the colour space to record the maximum colour information possible. You can always convert images to sRGB afterwards if necessary.



Volume OFF
Pitch 🔊H

03 Disable the focus beep Custom settings>D1 Beep

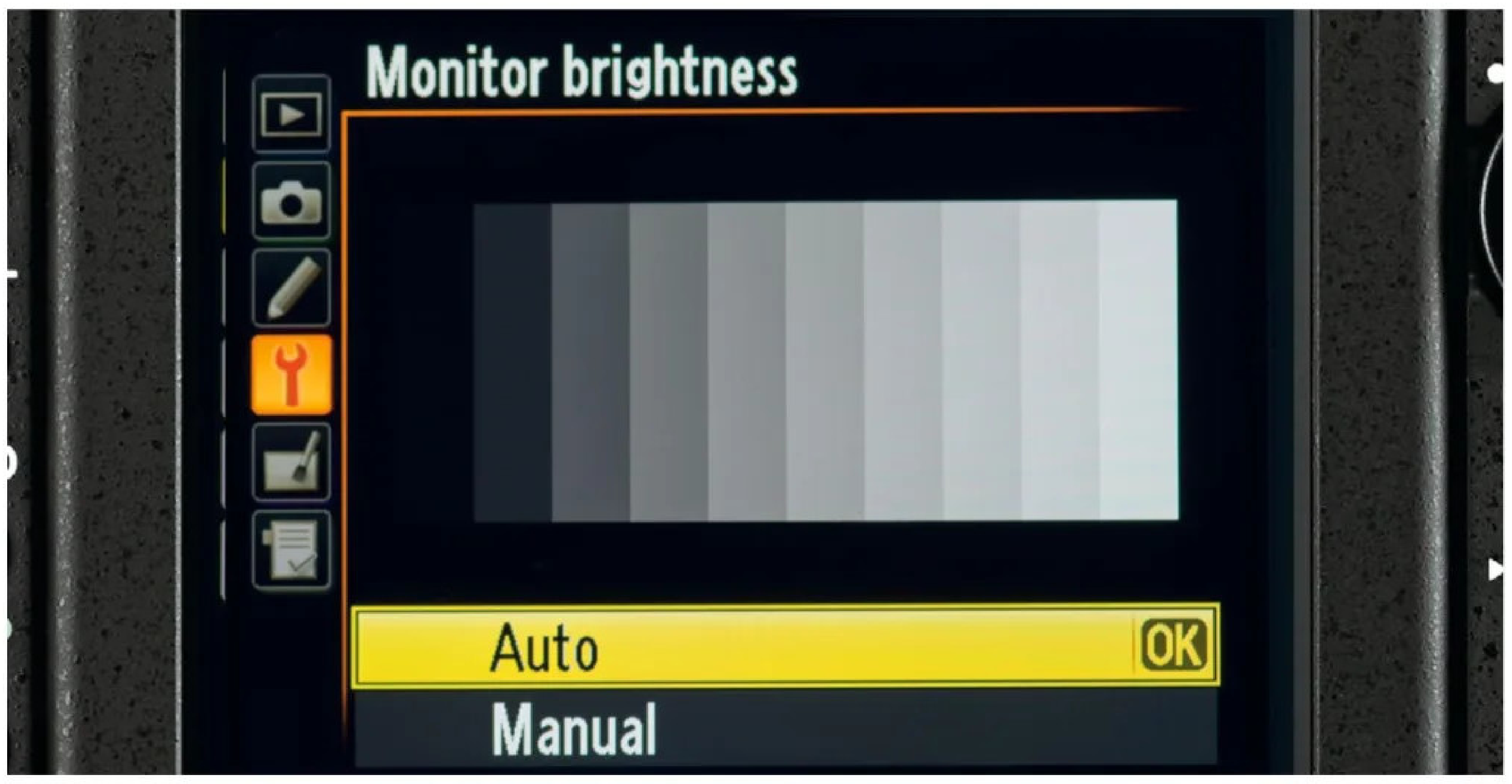
This option is down to personal preference, really. Some photographers like to hear the confirmation beep that sounds when the camera achieves focus lock. Others find it annoying and prefer to disable it, and instead use the little focus-lock light at the bottom left of the viewfinder.



Artist
James Paterson
Copyright
James Paterson
☑ Attach copyright information

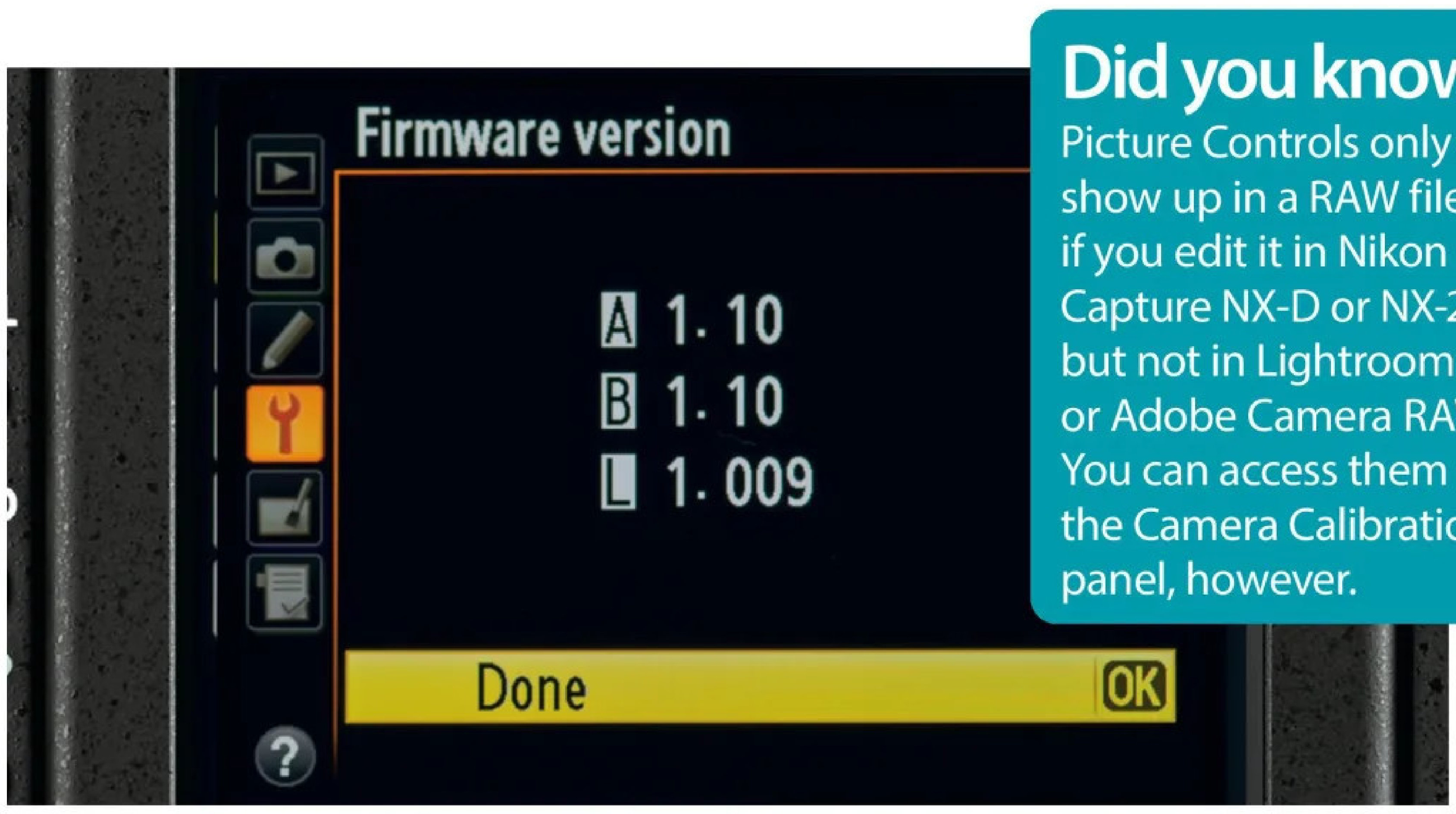
04 Attach copyright info Setup>Copyright information

Here you can choose to add copyright data that will be embedded in every image you shoot. As well as a name, some photographers like to include their website or contact details here. Filling out these details can help to protect your images in the future once you've uploaded them to the web.



05 Set the LCD brightness Setup>Monitor brightness

A correctly adjusted LCD is essential for judging the exposure of your photos when you check them on the back of the camera, so either tweak the brightness manually, or consider using the Auto setting so that the monitor adjusts itself to suit the ambient lighting conditions.



A 1.10
B 1.10
L 1.009

06 Check the firmware Setup>Firmware version

To check that the camera has the latest edition of the firmware (built-in software), note the version in the firmware menu, then go to Nikon's local support website. If there's a new version, download it, and carefully follow the instructions included to install it safely.

Did you know?

Picture Controls only show up in a RAW file if you edit it in Nikon Capture NX-D or NX-2, but not in Lightroom or Adobe Camera RAW. You can access them via the Camera Calibration panel, however.

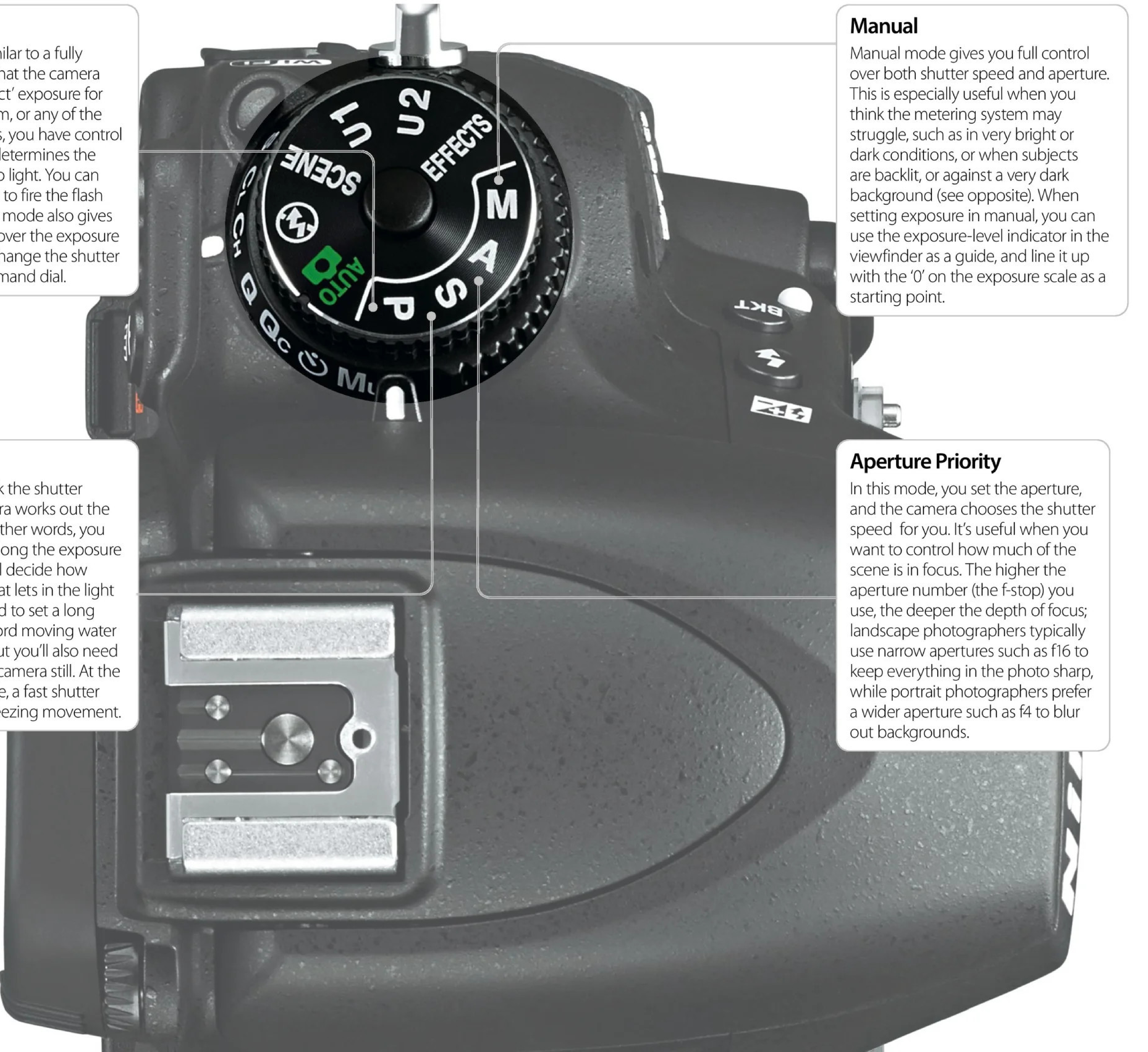
The top plate

With access to the four main shooting modes, metering and exposure compensation, this is where you control how your camera captures light

Photography is all about light – this is a phrase you'll hear again and again. But it's also about how you harness and channel that light on to your camera's sensor. The top view of your DSLR gives you the controls to do this. The button layout varies between different Nikon models, but there are fundamental settings and controls that are universal to all of them, such as the essential PASM exposure modes, invaluable controls such as exposure compensation, and the all-important shutter-release button.

With strong backlighting, your Nikon may try to set an exposure that reveals detail in the brighter background, under-exposing your subject.

Similarly, when shooting against a very dark background, your camera may try to brighten things up to reveal detail in the shadows, resulting in over-exposure of your subject. The solution is to dial in some positive (brighter) or negative (darker) exposure compensation.



Program
Program mode is similar to a fully automatic mode in that the camera figures out the 'correct' exposure for you. But with Program, or any of the other creative modes, you have control over the ISO, which determines the camera's sensitivity to light. You can also choose whether to fire the flash in low light. Program mode also gives you some influence over the exposure by enabling you to change the shutter speed with the command dial.

Manual
Manual mode gives you full control over both shutter speed and aperture. This is especially useful when you think the metering system may struggle, such as in very bright or dark conditions, or when subjects are backlit, or against a very dark background (see opposite). When setting exposure in manual, you can use the exposure-level indicator in the viewfinder as a guide, and line it up with the '0' on the exposure scale as a starting point.

Shutter Priority
In this mode you pick the shutter speed and the camera works out the aperture for you. In other words, you tell the camera how long the exposure should last, and it will decide how large the opening that lets in the light should be. You'll need to set a long shutter speed to record moving water or clouds as a blur, but you'll also need a tripod to keep the camera still. At the other end of the scale, a fast shutter speed is useful for freezing movement.

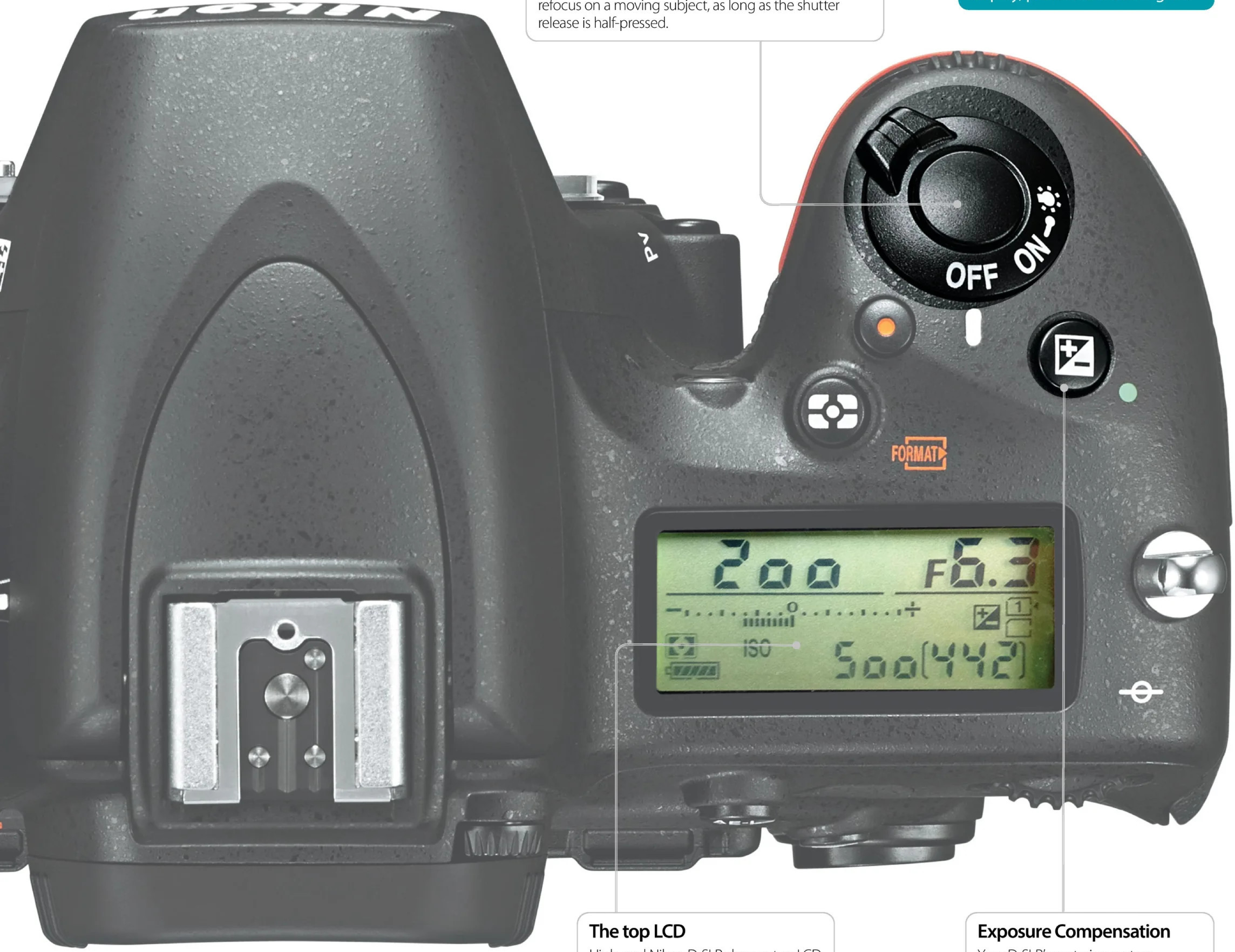
Aperture Priority
In this mode, you set the aperture, and the camera chooses the shutter speed for you. It's useful when you want to control how much of the scene is in focus. The higher the aperture number (the f-stop) you use, the deeper the depth of focus; landscape photographers typically use narrow apertures such as f16 to keep everything in the photo sharp, while portrait photographers prefer a wider aperture such as f4 to blur out backgrounds.

Shutter release

The shutter release button is used to take a picture, but it has a secondary function, too. A half press triggers the autofocus (AF). Your camera's AF has two main modes – AF-S and AF-C. The S in AF-S stands for Single, which means the AF will lock on to the subject, and then stop. The C in AF-C stands for Continuous; in this mode, the AF will continually refocus on a moving subject, as long as the shutter release is half-pressed.

Did you know?

Most Nikons offer a shortcut for formatting memory cards – hold down the two buttons marked 'Format' for a couple of seconds, then when 'For' flashes in the display, press them both again.



The top LCD

High-end Nikon D-SLRs have a top LCD that displays exposure information. On entry-level models the same exposure settings can be seen either around the edges of the viewfinder, or on the rear LCD. The display shows the three core figures that make up an exposure. Aperture is measured in f-stops – the larger the number, the smaller the lens opening. Shutter speed is the length of time the sensor is exposed. ISO controls sensor sensitivity.

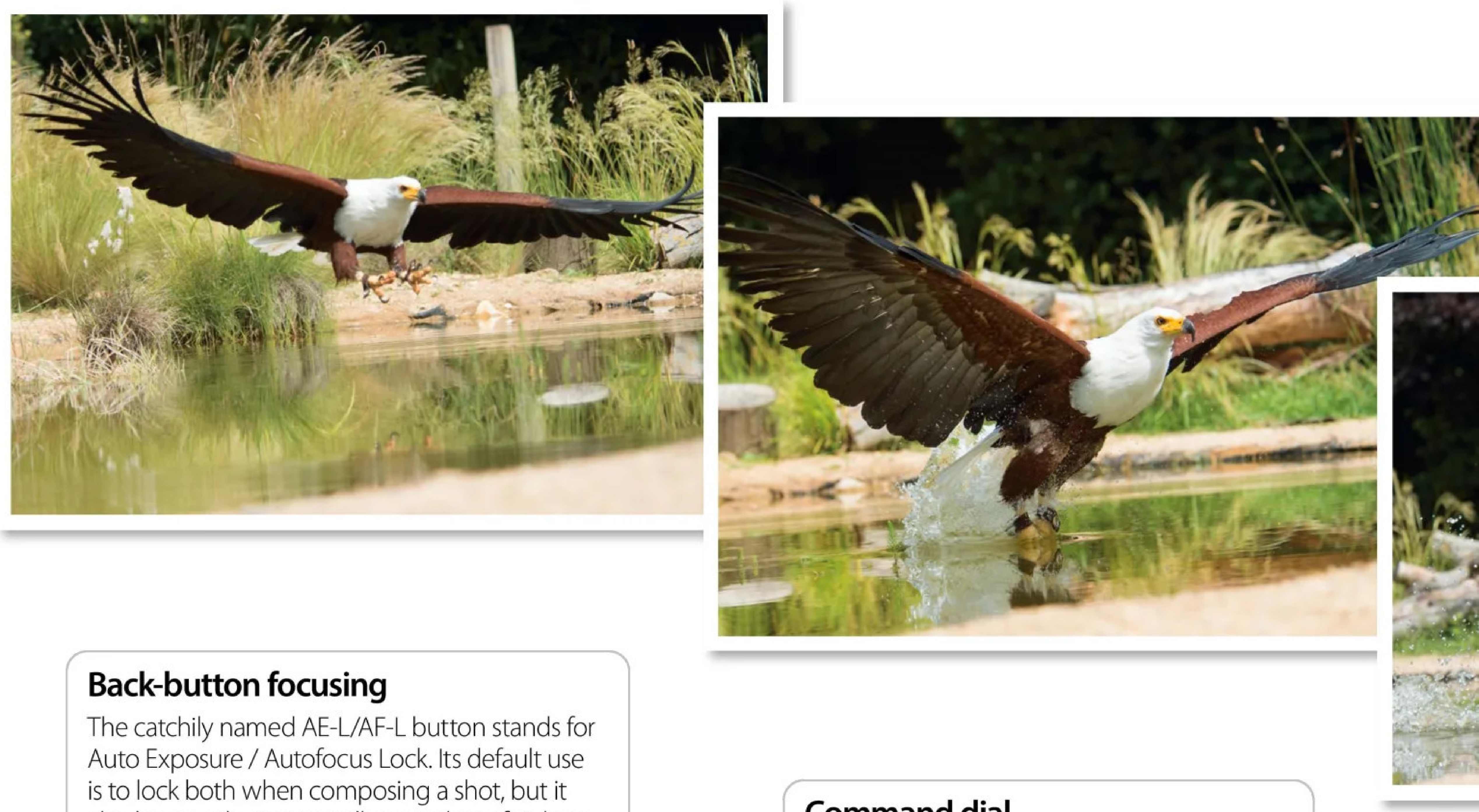
Exposure Compensation

Your D-SLR's metering system is clever, but it's not foolproof. It assumes that there will be a balanced variety of highlights, shadows and mid-tones in every scene. So if the subject is against a bright backdrop, it may be under-exposed; against a dark backdrop it may be over-exposed. This is where exposure compensation helps. Hold the button and turn the command dial to allow more or less light in to the camera.

The back

Get to know the back of your camera for quick access to essential exposure settings, video controls and drive modes

Your journey around the body of your Nikon DSLR continues with the rear side. Here's where you'll spend the majority of your time, looking through the viewfinder, selecting menu settings, or reviewing images, so it will stand you in good stead to know your way around the buttons and controls. Get to know the viewfinder, too – it's more than just a compositional tool. It offers a wealth of exposure data along the bottom of the screen that adapts to the amount of light in the frame, so it's a great aid when learning about exposure.



Back-button focusing

The catchily named AE-L/AF-L button stands for Auto Exposure / Autofocus Lock. Its default use is to lock both when composing a shot, but it also has another potentially more beneficial use. You can set it to trigger the autofocus (enable the feature in the Custom settings>Autofocus menu). Many sport and wildlife pros prefer to use this button instead of the shutter release button to autofocus (or the dedicated AF-On button on higher-end Nikons), as it keeps the operations of focusing and shooting separate. This enables you to focus with your thumb, and fire off a shot with your index finger at the peak of the action.

Command dial

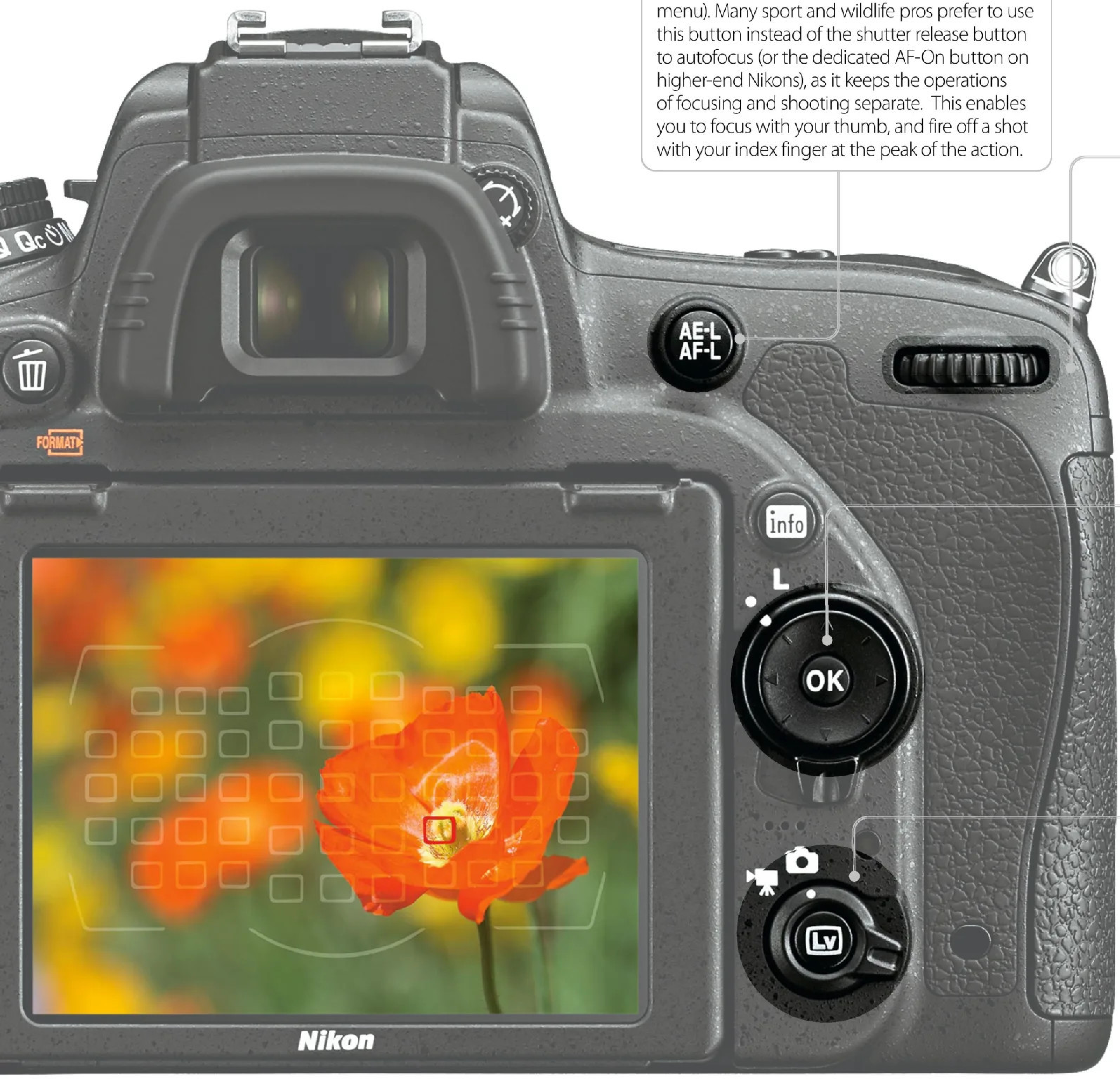
Placed where your right thumb will naturally rest, the command dial enables you to change exposure settings without having to take your eye from the viewfinder. It's used in combination with lots of other buttons for adjusting various other settings, such as exposure compensation and autofocus. When setting the exposure, the command dial controls the shutter speed. The finger dial on the front (aka the 'sub-command dial') sets the aperture.

The multi selector

Like a laptop's track pad, this is the main control for navigating your camera's settings and menus. While shooting, it enables you to change the focus point in the viewfinder display (as long as focus-point selection isn't set to auto). When reviewing images in Playback mode, move left or right to scroll, and up or down for different image info. When zoomed in with Live View or image review, use it to move the magnified area around.

Video switch

This switch enables you to change modes between shooting still photos or video. When shooting video, start by choosing a frame rate in the Movie settings menu – 24 or 30 are good choices. For smooth video, match the shutter speed to the frame rate, so use 1/50 sec for a 24fps rate or 1/60 sec for a 30fps rate. Using Live View for video recording is usually more convenient than using the viewfinder. When you're ready to record, hit the red button.



In Continuous High (CH) mode, the camera fires as quickly as it can, which may rapidly fill up the buffer. In Continuous Low (CL), the slower pace allows time for the images to write to the memory card.

The viewfinder

The great advantage DSLRs have over other types of camera is that the viewfinder shows you the view through the lens. It also provides lots of useful information along the sides and bottom. The green circle at the bottom left appears when the focus has locked. Next to this are the shutter speed and aperture, then the exposure mode (in manual, you'll also see a scale). Next to this is the ISO, then to the far right in brackets is the number of shots left.

Did you know?

It's a myth that shooting video requires faster memory cards than shooting stills. A burst of RAW files requires greater transfer speed than a video.

Drive Modes

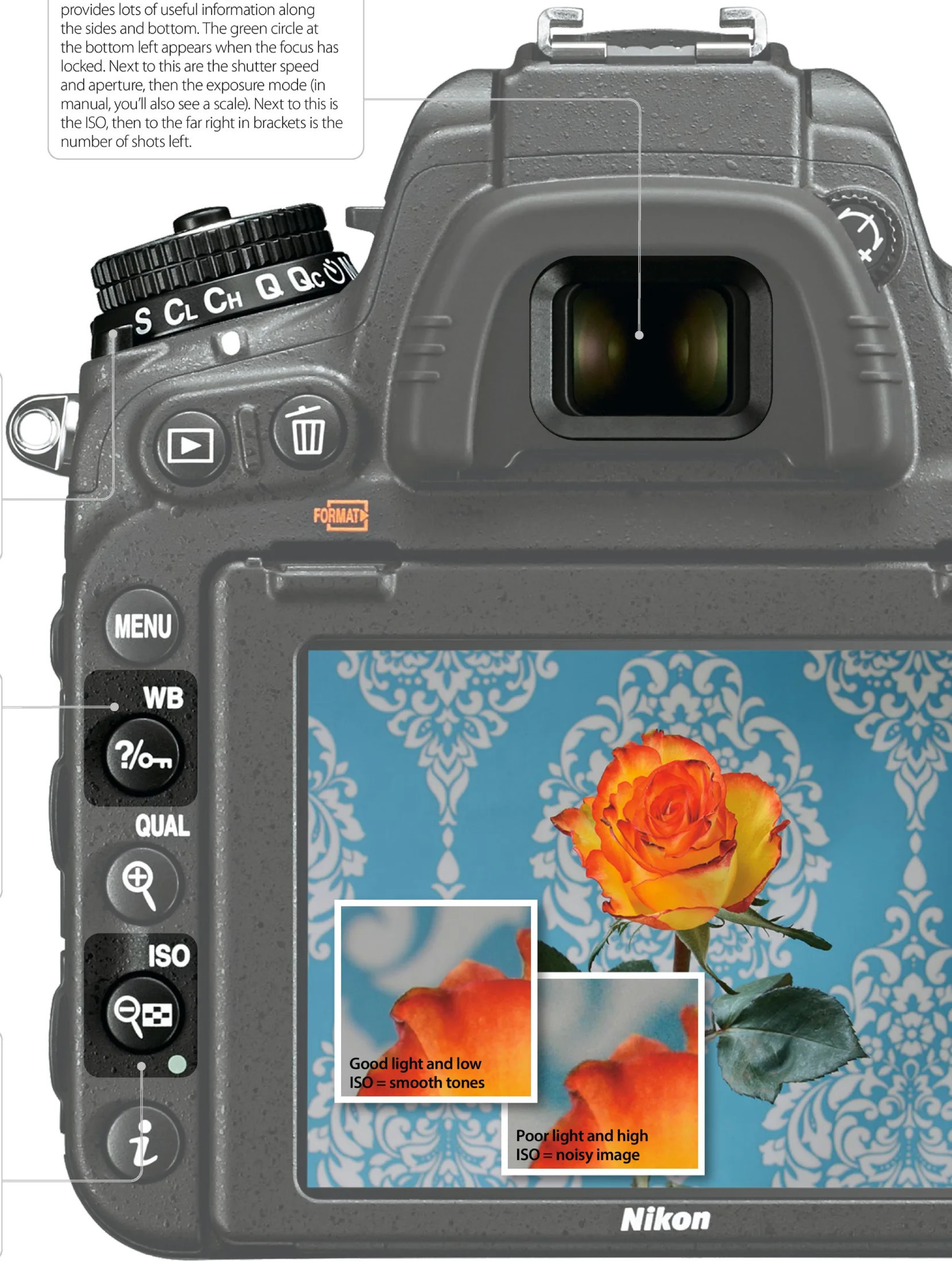
Your DSLR has several drive modes that control how quickly it shoots. Set to Single shot (S), the shutter fires once each time you press the shutter release. Set to either of the Continuous modes, the shutter fires repeatedly for as long as the shutter release is held. Continuous High (CH) fires quickly; Continuous Low (CL) fires slowly.

White Balance

Light comes in all kinds of colours, from cool blue daylight to warm yellow tungsten interiors. Our eyes automatically adjust to the different conditions, but a camera sometimes needs a little help. Choose a white balance to suit the conditions, and the colours will look more natural. One of the biggest advantages of shooting in RAW format is that you can adjust the white balance setting afterwards with no loss of image quality.

ISO

ISO enables you to control the sensor's sensitivity to light – the higher the ISO, the more sensitive the sensor. The trade-off with higher sensitivity is a decrease in image quality. An exposure is a balancing act between aperture, shutter speed and ISO, so we set the ISO based on the other exposure needs. Modern sensors perform well at high sensitivities, so don't get too hung up on always using the lowest possible ISO.



Good light and low ISO = smooth tones

Poor light and high ISO = noisy image

The rear LCD

Whether reviewing images, watching Live View or navigating menus, the rear LCD is the window into the digital heart of your DSLR

For those of us who remember shooting on film, the LCD screen was perhaps the greatest thing about the digital camera revolution. Suddenly, we could see the image we'd taken in a split second, rather than days later. Of course, it seems normal now, but it's still encouraging to think back to those days when analysing and troubleshooting was so much trickier. Whether reviewing images or using Live View, the technical side of photography is easier than it's ever been, and it's all thanks to the LCD.

Active D-Lighting

In high-contrast scenes such as on a bright sunny day, or if your subject is against a bright backdrop, it can be hard to record detail in both the shadows and highlights. Often you have to compromise and go for one or the other. Found in the Shooting menu, Nikon's Active D-Lighting can help. It lifts detail in the shadows and holds back highlights to produce images with less contrast. If you shoot in RAW, you can apply D-Lighting afterwards with Nikon's Capture NX-D software.

Live View overlays

When using Live View, pressing the Info button toggles the view modes. There's a handy grid view that divides the frame into fours horizontally and vertically, which can be useful for precise alignment. There's also a virtual horizon that aids keeping your camera perfectly level, and an uncluttered screen that just displays the focus point.

Playback

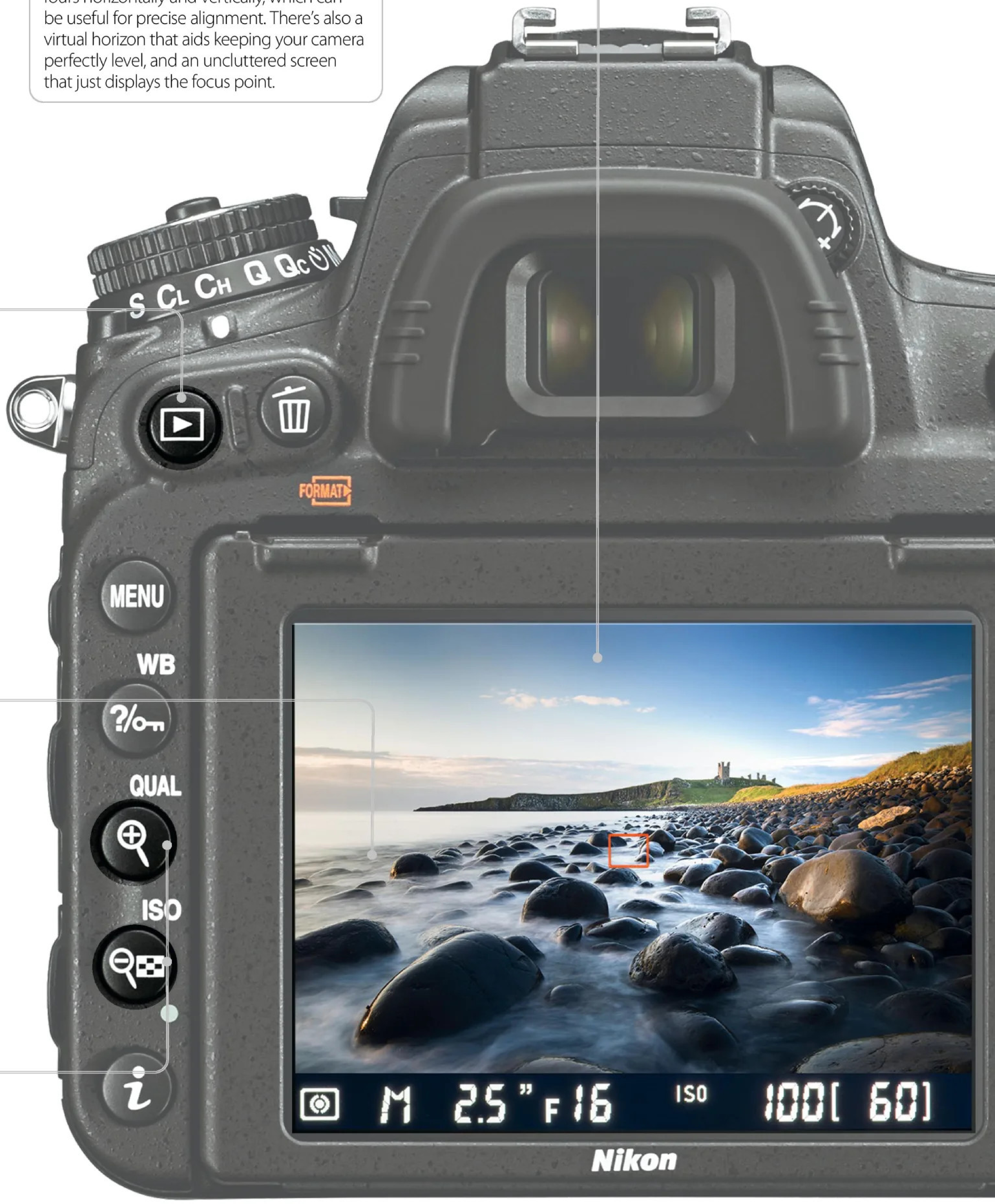
As you'd expect, the play button initiates Playback mode. In this mode, any buttons that have a dual use, such as the Quality button, will switch to their Playback option (Zoom in). When reviewing images you've recently shot, there are two checks to make. First, is the exposure correct? You can judge this by eye, but for greater accuracy, learn how to read a histogram (see opposite). Second, is it pin-sharp? You may need to zoom in close to check.

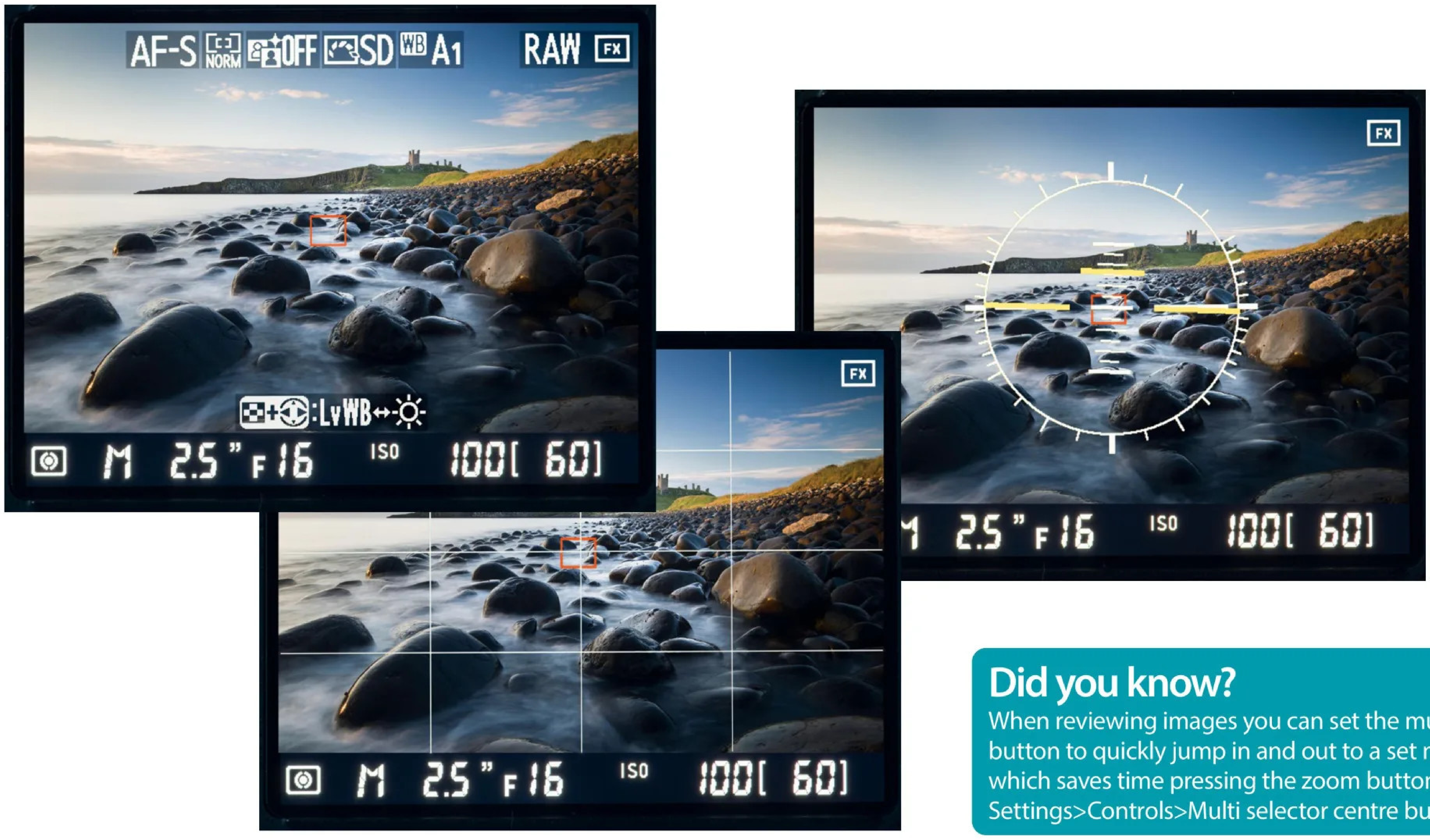
Live View

Live View presents the scene on your camera's LCD. It's useful if you need to hold the camera at an unusual angle. There are advantages for landscape photographers, too, especially if the camera is fixed to a tripod. It gives you the time and space to stand back and analyse the composition. What's more, if you're using a long shutter speed, there's no danger that the clunk of the mirror will cause camera shake, because the mirror is already up in Live View.

Zoom buttons

When Live View is on, the zoom buttons enable you to magnify part of the scene, which is handy when focusing, particularly if the camera is fixed to a tripod. Zoom in close with the zoom button, use the back navigator to move the point over your subject, and then either engage autofocus or adjust the focus ring on your lens. When reviewing images, zoom in close with these buttons to check whether a shot is perfectly sharp.




AF-S NORM OFF SD WB A1 RAW FX
:LvWB↔☼
M 2.5" F16 ISO 100[60]
FX
M 2.5" F16 ISO 100[60]
FX
2.5" F16 ISO 100[60]

Live View overlays can help you to compose your scene using the rule of thirds, and to ensure that the horizon is straight. Or you can simply switch it off for a clear image.

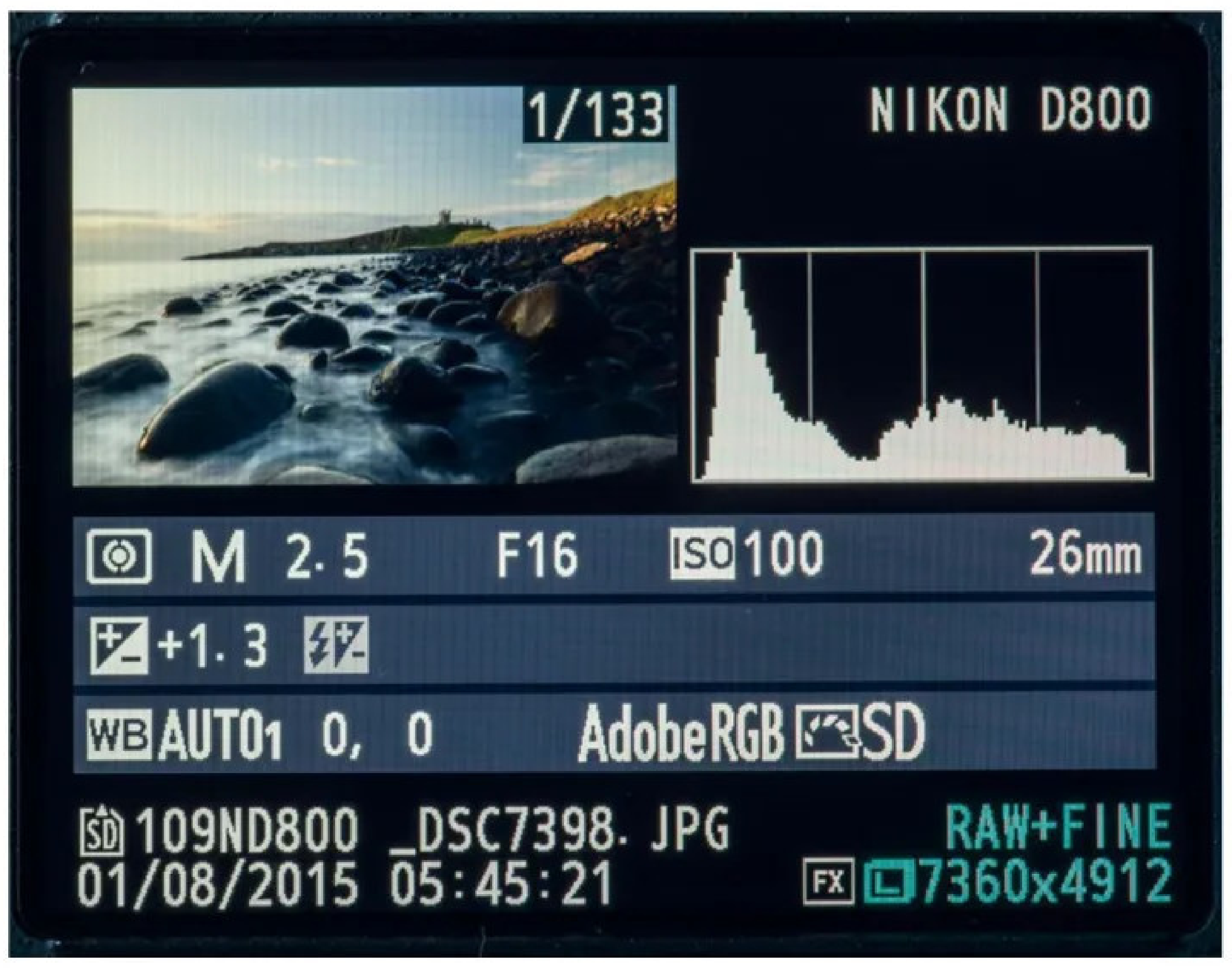
Did you know?

When reviewing images you can set the multi selector OK button to quickly jump in and out to a set magnification, which saves time pressing the zoom buttons. Go to Custom Settings>Controls>Multi selector centre button.

AE-L
AF-L
info
L
OK
Lv

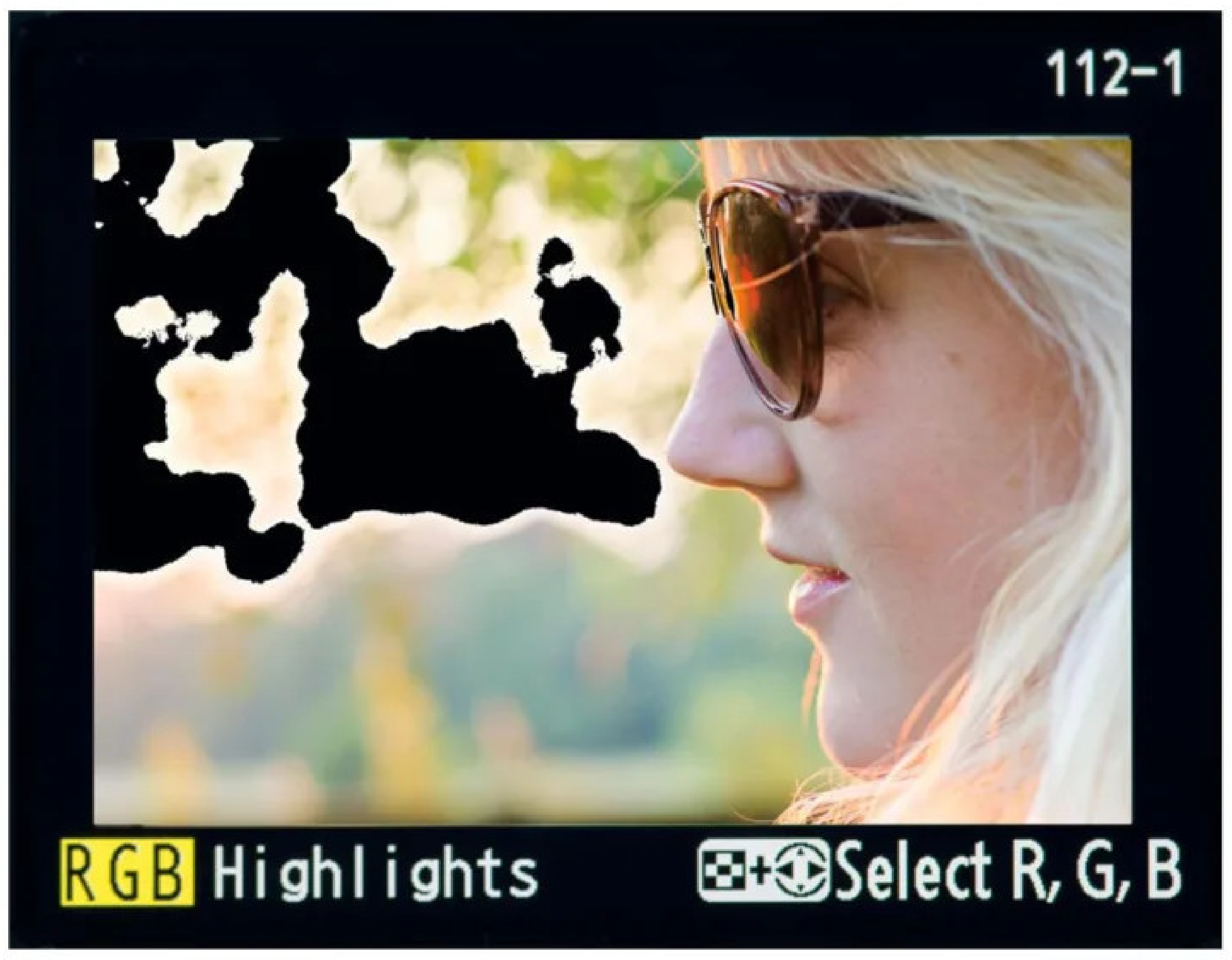
The Histogram

When reviewing your images in Playback mode, press up or down on the multi selector to toggle the histogram on. This is a graphical representation of the tones that make up an image. To prevent lost detail in shadows or highlights, ensure the peaks don't touch the sides. If the graph intersects the right side it means blown highlights; if it intersects the left, black shadows. You can use exposure compensation to tweak exposure if needed.


1/133
NIKON D800
M 2.5 F16 ISO 100 26mm
+1.3
WB AUTO1 0, 0 AdobeRGB SD
109ND800 _DSC7398. JPG RAW+FINE
01/08/2015 05:45:21 FX 7360x4912

Clipping warnings

If you're worried about lost detail in highlights, consider turning on clipping warnings in Playback> Playback Display Options>Highlights. Now, when reviewing images, areas that are completely blown out will flash. You can also check for blown-out colours in the individual channels by holding the minus zoom button and pressing left or right on the multi selector. If you shoot in RAW, bear in mind that these warnings are based on a JPEG image.


112-1
RGB Highlights
Select R, G, B

The front & side

Get to know the front controls, learn the best way to hold a lens, and discover how to shoot bracketed sequences of images

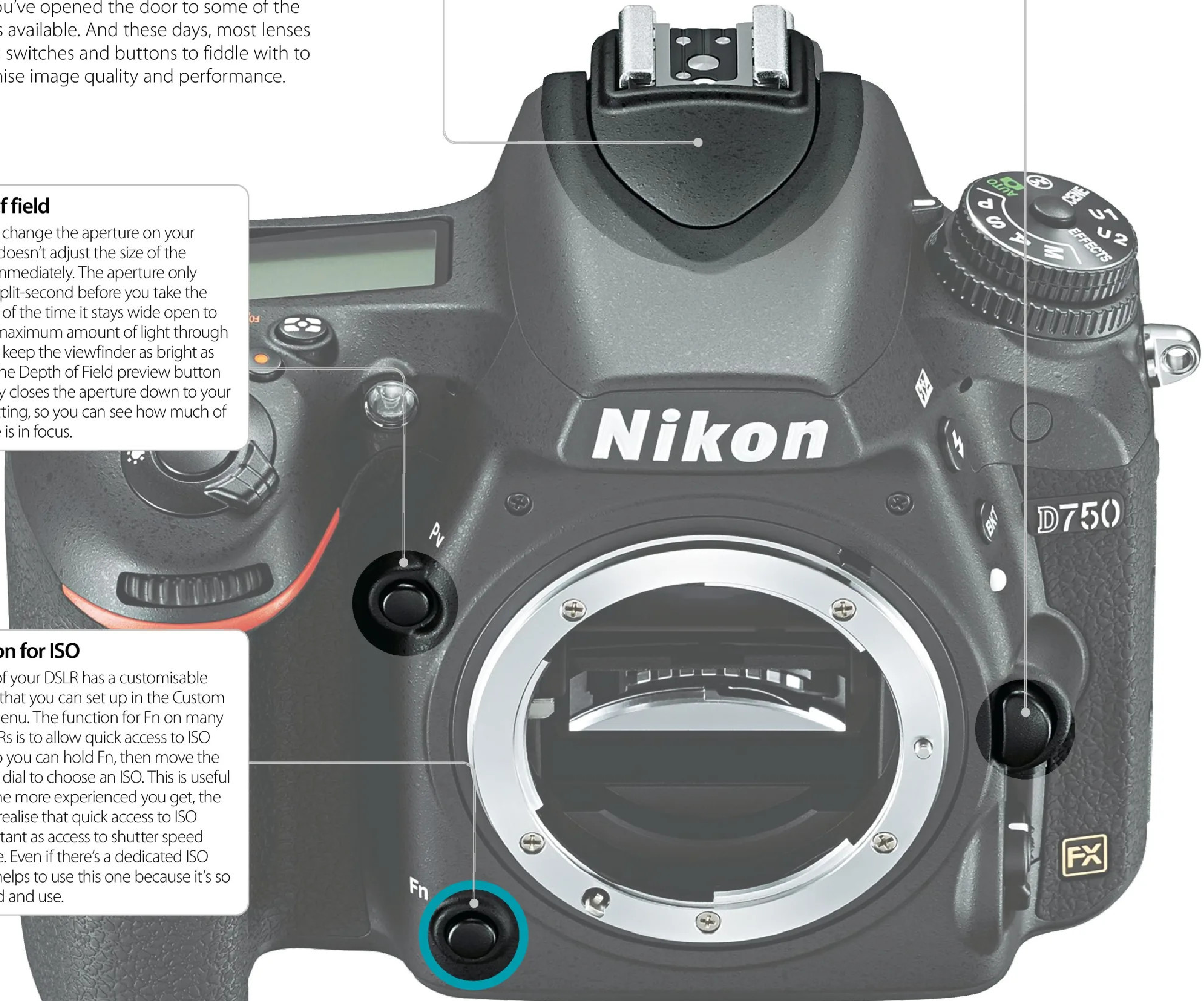
The last two stops on our tour take us around the front and side of your DSLR, where you'll find a select array of buttons that change important features such as autofocus and flash. Of course, there's also the lens controls to consider. The greatest strength of your DSLR is the ability to change the lenses, and in choosing a Nikon, you've opened the door to some of the best optics available. And these days, most lenses have a few switches and buttons to fiddle with to help optimise image quality and performance.

Pop-up flash

The pop-up flash provides a quick burst of light in poor light, or you can use it to give outdoor images a lift with fill-light, or perhaps a catchlight. It's fine for snaps, but professionals avoid using it because the hard light it produces results in harsh shadows. It's usually preferable to fire an external flash off-camera. If you have an external flash, your pop-up flash can be used to trigger it wirelessly.

Lens disengage

Press the lens disengage button to remove the lens. While changing lenses, hold the body face downwards to help prevent dust falling in (it might even help infiltrated dust to fall out). It's important to minimise the ingress of dust, but there's no need to obsess over it. Your sensor has a mirror in front of it, so much of the dust never makes it through. Sensor marks are unfortunately inevitable, so at some point you'll need to clean the sensor.



Depth of field

When you change the aperture on your camera, it doesn't adjust the size of the opening immediately. The aperture only alters the split-second before you take the shot; most of the time it stays wide open to allow the maximum amount of light through the lens to keep the viewfinder as bright as possible. The Depth of Field preview button temporarily closes the aperture down to your chosen setting, so you can see how much of your scene is in focus.

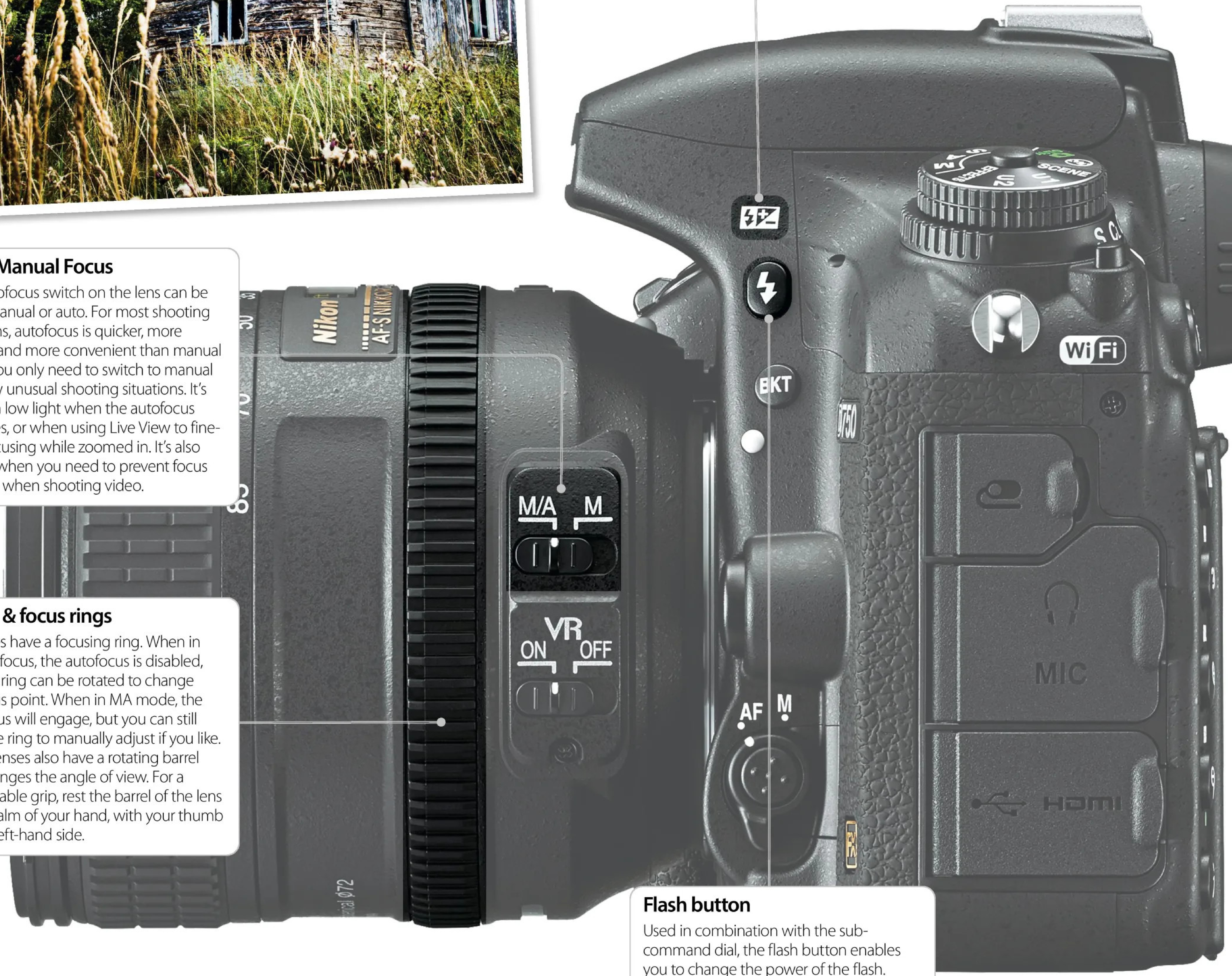
Fn button for ISO

The front of your DSLR has a customisable Fn button that you can set up in the Custom Settings menu. The function for Fn on many Nikon DSLRs is to allow quick access to ISO settings, so you can hold Fn, then move the command dial to choose an ISO. This is useful because the more experienced you get, the more you realise that quick access to ISO is as important as access to shutter speed or aperture. Even if there's a dedicated ISO button, it helps to use this one because it's so easy to find and use.

Bracketing is a useful feature that enables you to ensure that you capture all the tones in a scene in one or more images.

Bracketing

Bracketing is a useful feature that gives you a bit of a safety net when it comes to finding the correct exposure. Once enabled, the camera will adjust the exposure over three or more shots so you have a range to pick from. Hold the button and use the command dial to set either 3, 5, 7 or 9 shots, and the sub-command dial to determine the increments. It's also useful if you want to combine several exposures for a high dynamic range image.



Auto/Manual Focus

The autofocus switch on the lens can be set to manual or auto. For most shooting situations, autofocus is quicker, more precise and more convenient than manual focus. You only need to switch to manual for a few unusual shooting situations. It's useful in low light when the autofocus struggles, or when using Live View to fine-tune focusing while zoomed in. It's also helpful when you need to prevent focus hunting when shooting video.

Zoom & focus rings

All lenses have a focusing ring. When in manual focus, the autofocus is disabled, and the ring can be rotated to change the focus point. When in MA mode, the autofocus will engage, but you can still twist the ring to manually adjust if you like. Zoom lenses also have a rotating barrel that changes the angle of view. For a comfortable grip, rest the barrel of the lens in the palm of your hand, with your thumb on the left-hand side.

Flash button

Used in combination with the sub-command dial, the flash button enables you to change the power of the flash. This can be useful when shooting with flash outdoors – you can lower the power so that rather than blasting the subject with light, the pop-up will gently lift the shadows. Alternatively, hold the button down and use the main command dial to set different flash modes such as front/rear curtain and red-eye reduction.

Did you know?

When shooting a sequence you can set your timer to capture the whole set with one shutter press. Go to Custom Settings>Timer/AE lock>Self Timer. Set delay to 2 seconds, and number of shots equal to your sequence.

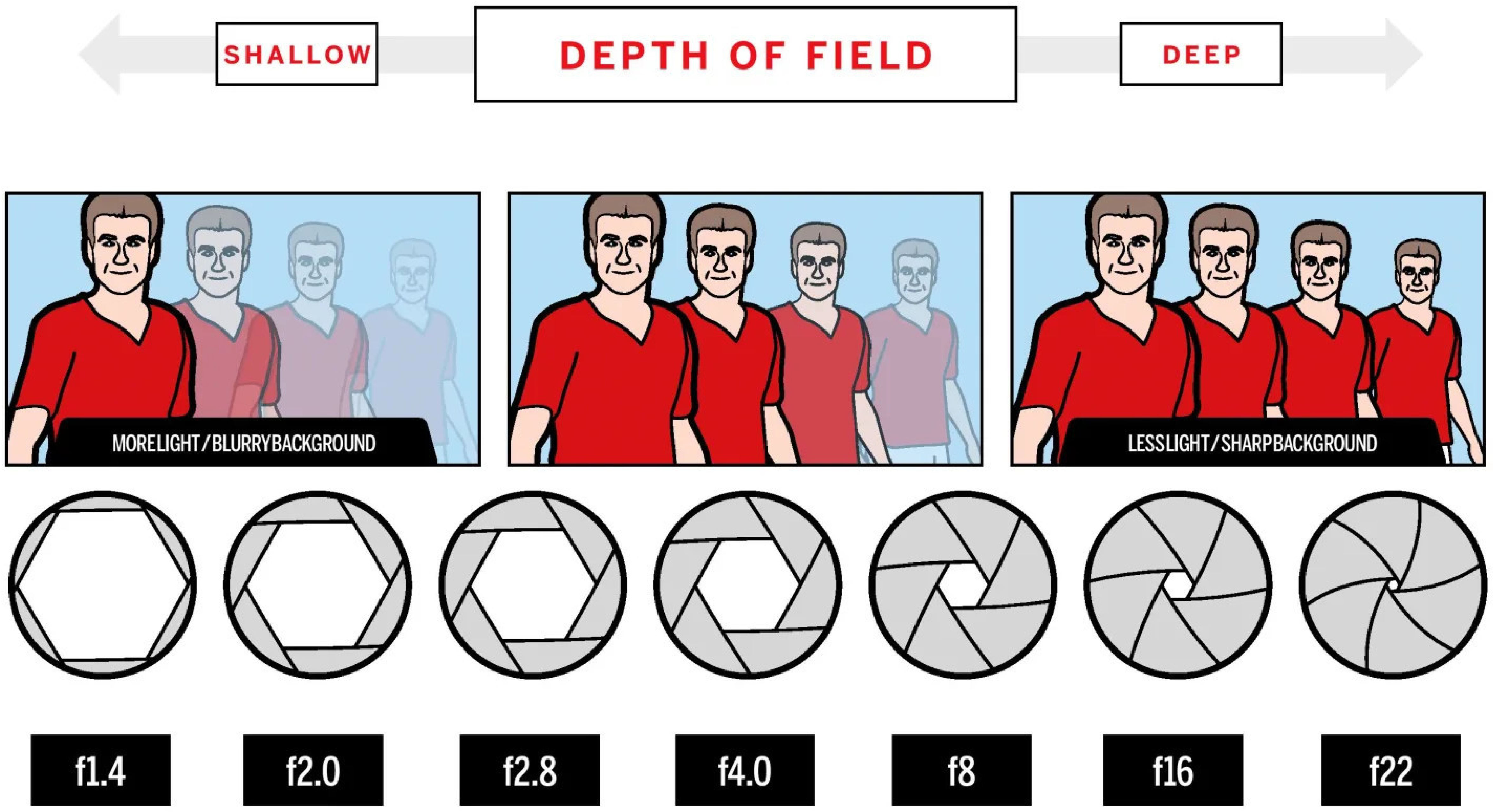
Understanding exposure

Control the three variables that make up an exposure

Aperture

This alters the size of the lens opening to allow more or less light through

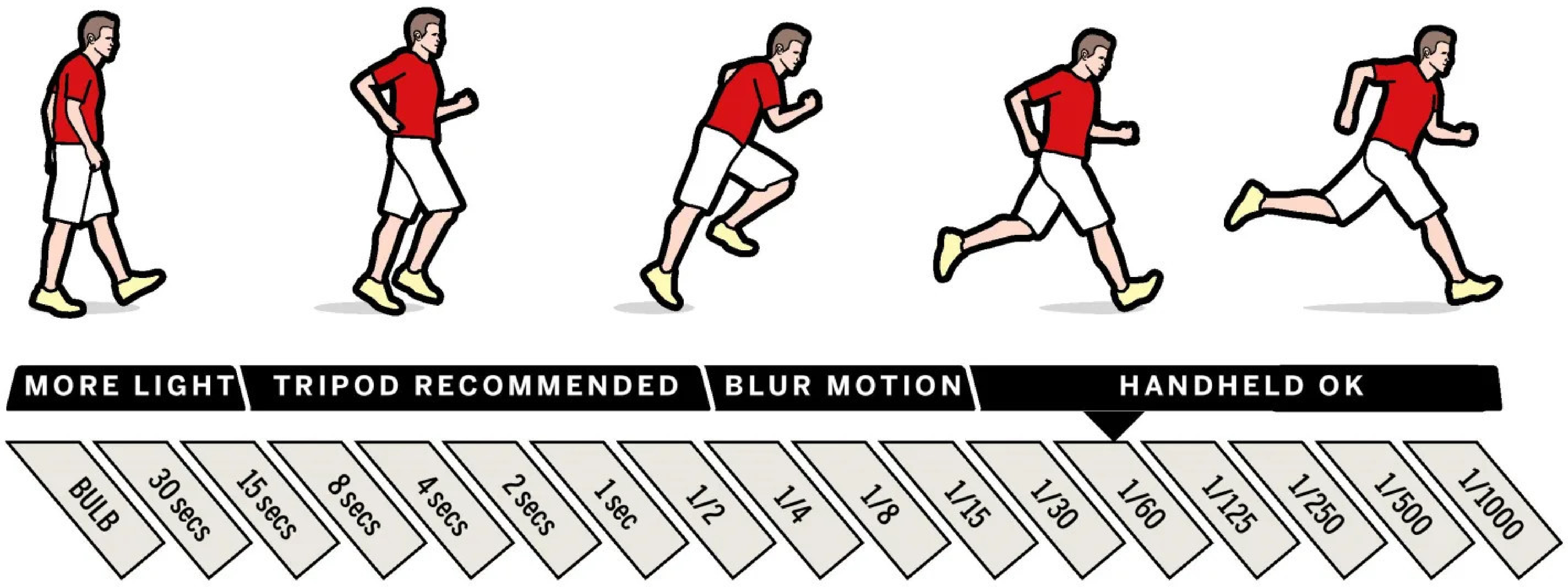
When we focus on a point in a scene, there will be an area in front and behind the point that also appears sharp. This is the depth of field. It can be expanded or contracted using the aperture, an adjustable opening in a lens that channels light through to the sensor. Aperture sizes are referred to as f-numbers, such as f8. A wide aperture (eg f2.8) lets in more light and produces a limited plane of focus (useful for blurring backgrounds or shooting in low light). A narrow aperture (eg f16) restricts the light and records a greater expanse of sharpness.

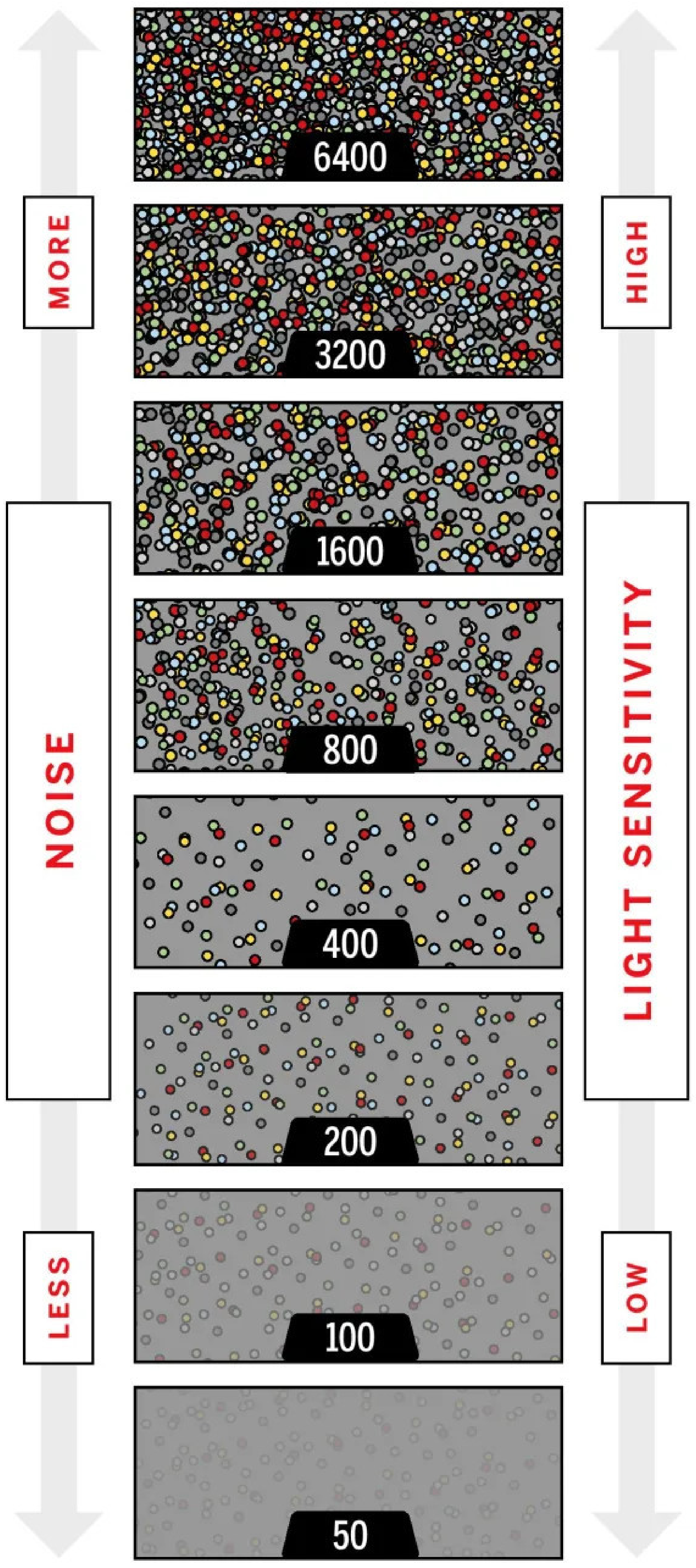

SHALLOW
DEPTH OF FIELD
DEEP
MORE LIGHT / BLURRY BACKGROUND
LESS LIGHT / SHARP BACKGROUND
f1.4
f2.0
f2.8
f4.0
f8
f16
f22

Shutter speed

This determines the length of time the sensor is exposed to light

An exposure lasts for a certain length of time; that time is determined by the shutter speed. The shutter is a type of curtain that sits in front of the sensor and opens for the desired duration to allow light through. In combination with the aperture, the shutter speed lets you control the amount of light that enters the camera. Choosing a shutter speed is important when there is movement in the scene: you may want to use a fast shutter speed (like 1/1000 sec) to freeze the action, or a lower speed (1/4 sec, and usually a tripod) to deliberately blur the action and give a sense of motion.


MORE LIGHT
TRIPOD RECOMMENDED
BLUR MOTION
HANDHELD OK
BULB
30 secs
15 secs
8 secs
4 secs
2 secs
1 sec
1/2
1/4
1/8
1/15
1/30
1/60
1/125
1/250
1/500
1/1000


MORE
NOISE
LESS
HIGH
LIGHT SENSITIVITY
LOW
6400
3200
1600
800
400
200
100
50

ISO

This controls sensitivity to light

A sensor is sensitive to the light that hits it. We can adjust the sensitivity (which is labelled ISO) to make the sensor require more or less light to capture a correctly exposed image. In lower light, increasing the ISO will mean that less light is required for a correct exposure. However, increased sensitivity comes at a price: visual 'noise', which degrades the image quality. At a lower sensitivity, like ISO100, the sensor requires more light but produces a higher-quality image with less noise. In general, wherever possible, use the lowest possible ISO for a given shot.

THE EXPOSURE TRIANGLE

Aperture, shutter speed and ISO work together in perfect harmony to produce the right amount of exposure, but the balance can be shifted to suit our needs...

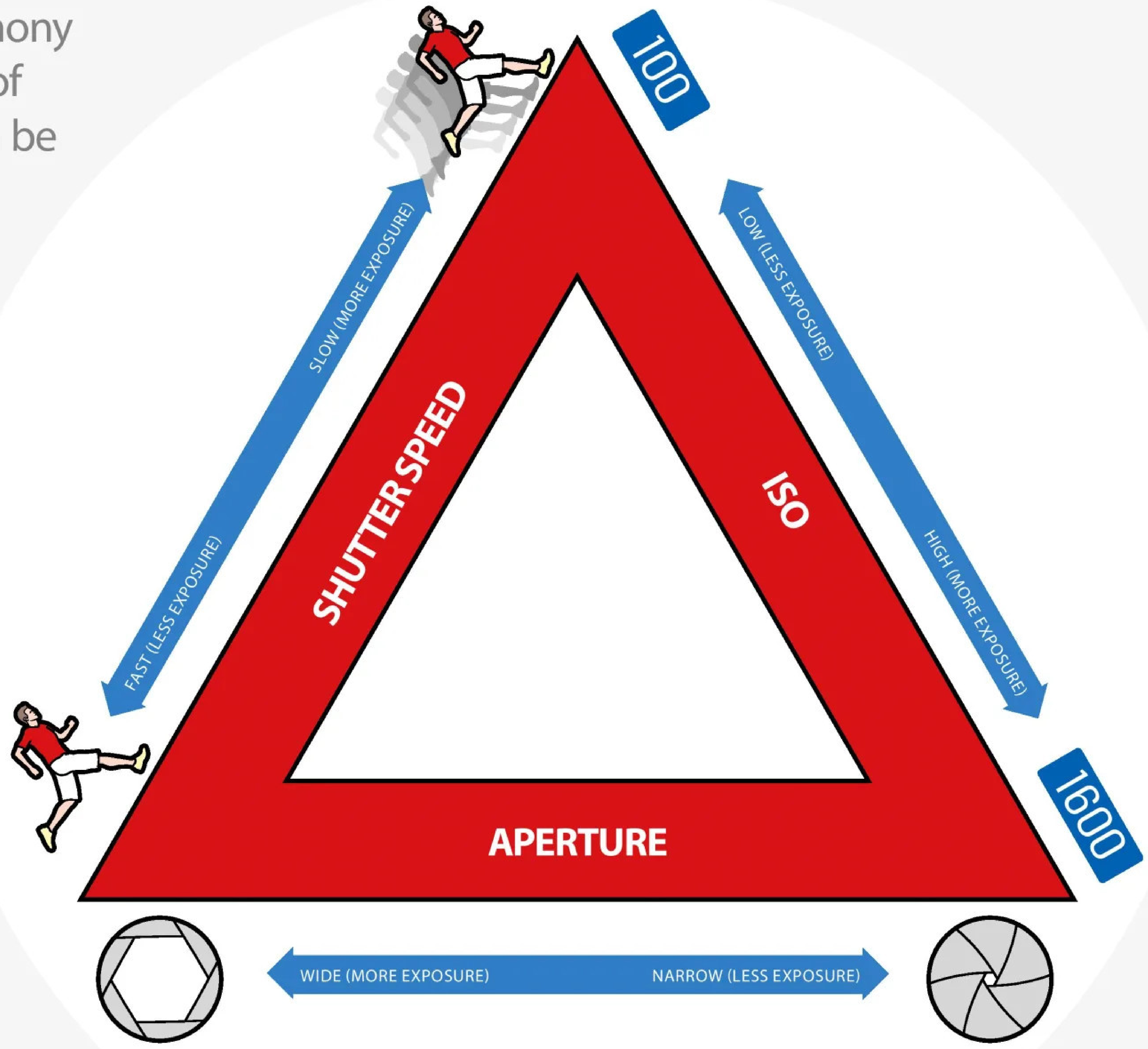
HOW IT WORKS

Imagine that aperture, shutter speed, and ISO are three sides of a triangle. If we alter one element, then we have to compensate by adjusting at least one of the other two. For example, a wide aperture and a short shutter speed might produce the same exposure as a narrow aperture with a longer shutter speed, but the resulting images will be different.

Widening the aperture allows more light through, so we compensate either with a short shutter speed to keep the capture of light brief, or a low ISO to make the sensor less sensitive to the light that hits it.

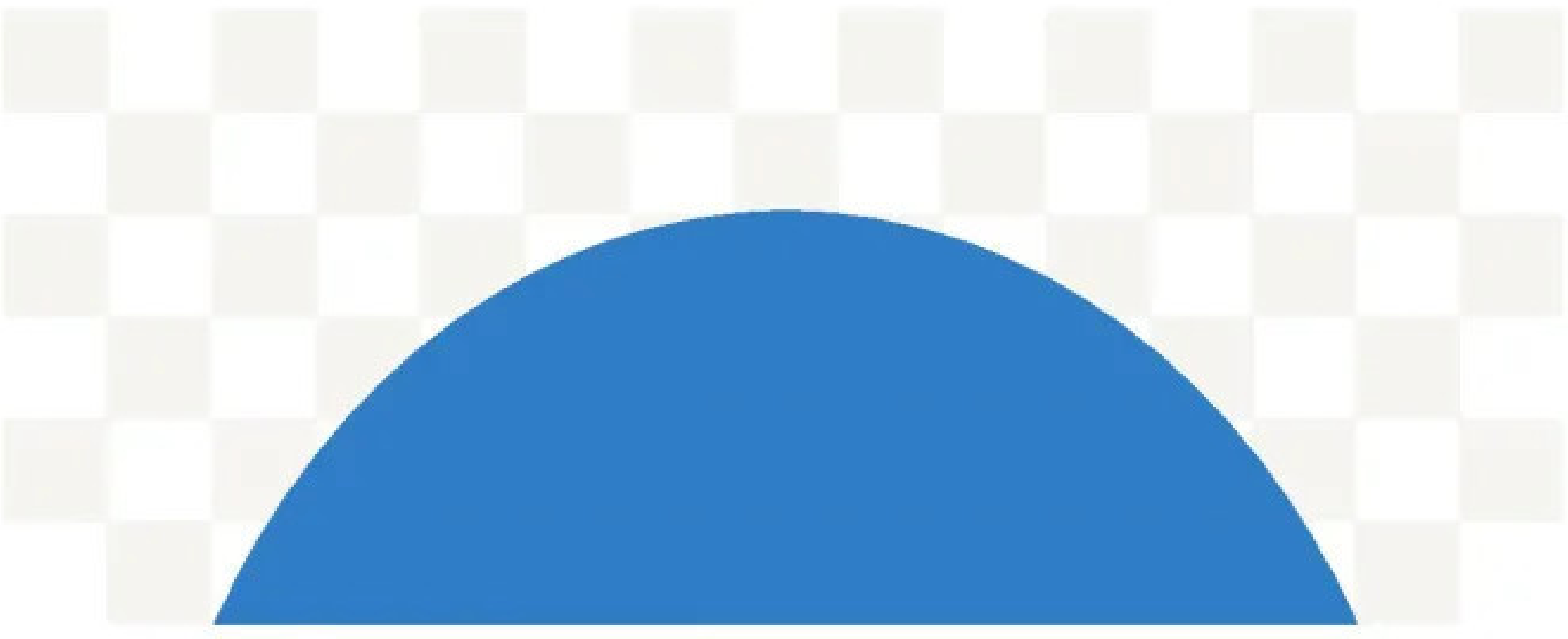
The longer the shutter is open, the more light shines through. So to prevent overexposure, we compensate either by narrowing the aperture to reduce the input of light, or by lowering the ISO to make the sensor less sensitive to light.

A narrow aperture restricts light and produces images with greater depth of field. Allowing less light in means you have to use slower shutter speeds, which require a tripod for sharp shots, or a higher ISO.



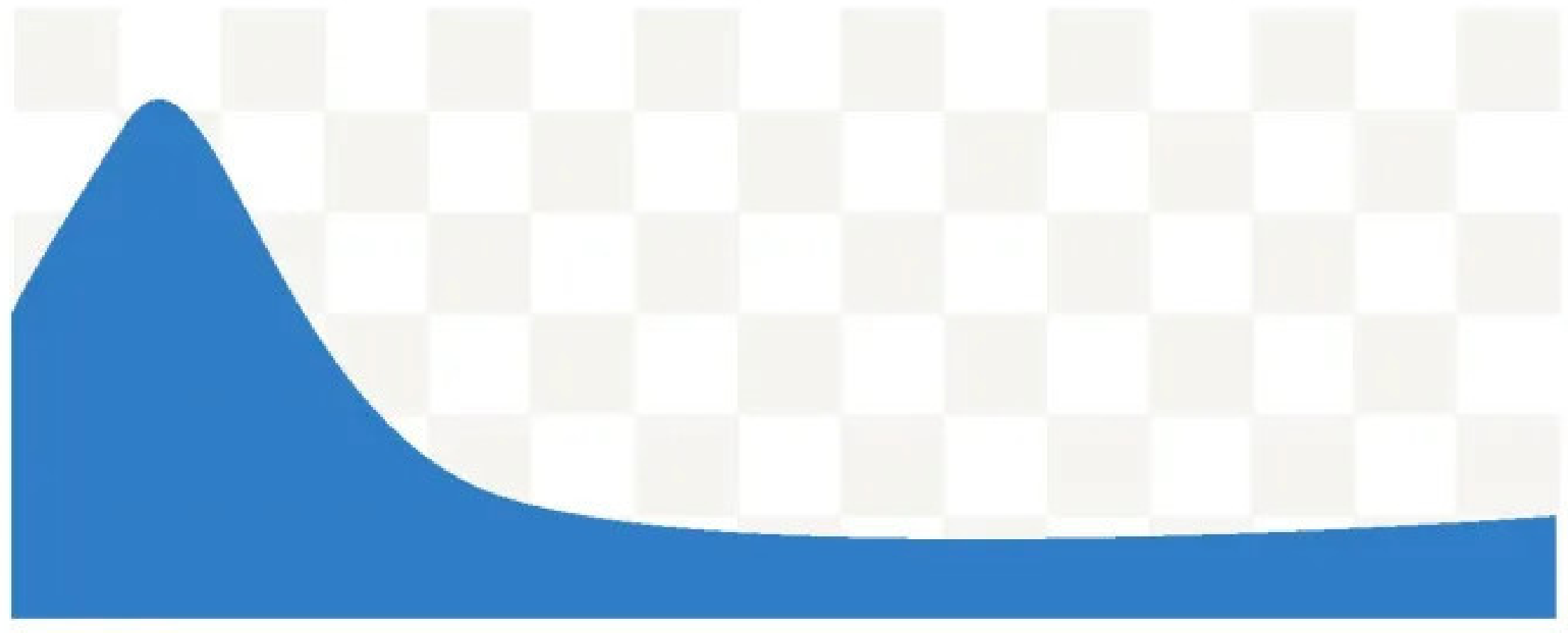
Exposure according to the histogram

The histogram function on a camera can tell us a lot about an image...



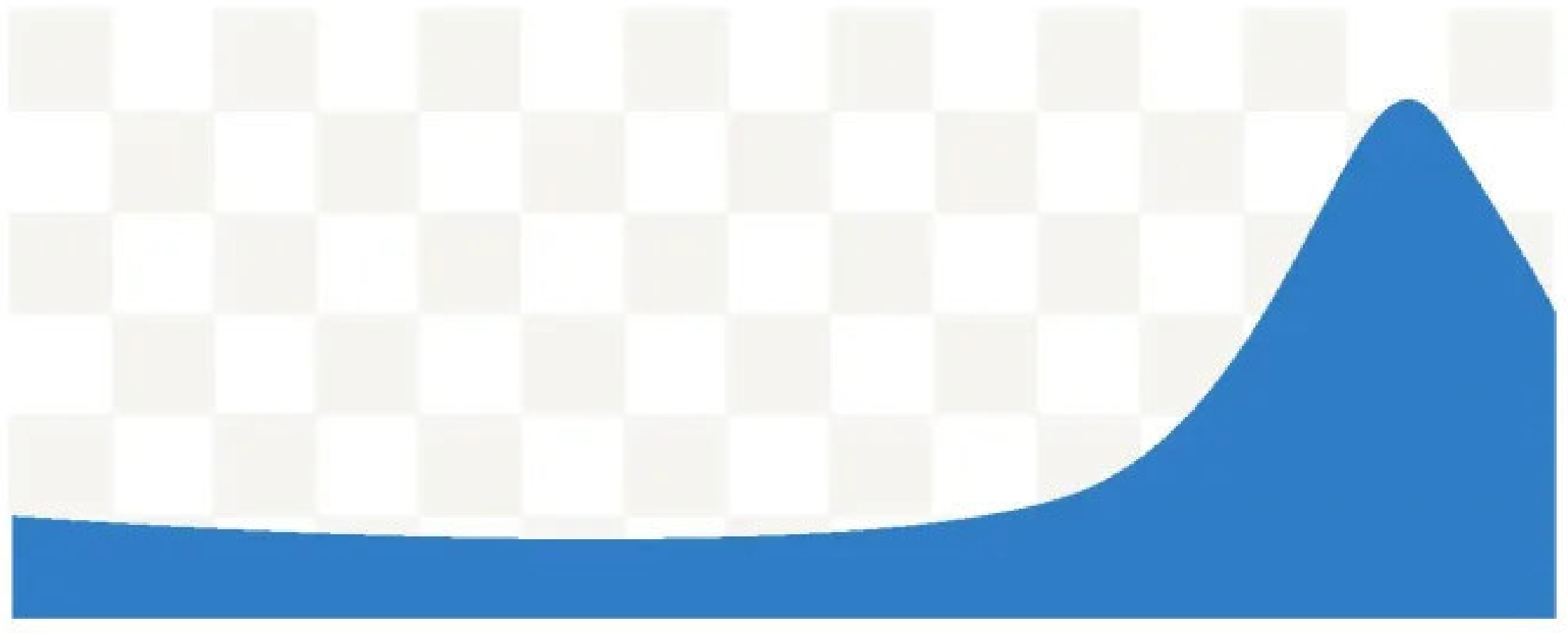
01 A Photo With Low Contrast

The histogram displays dark pixels on the left, light ones to the right. With no pixels at either extreme of the tonal range here, the image lacks deep shadows or bright highlights and probably looks quite 'flat'.



02 A Dark (Low-Key) Image

A large peak to the left of the graph indicated lots of dark tones. If the graph intersects the left edge before returning to zero, it means there's an undesirable loss of details in the shadows.

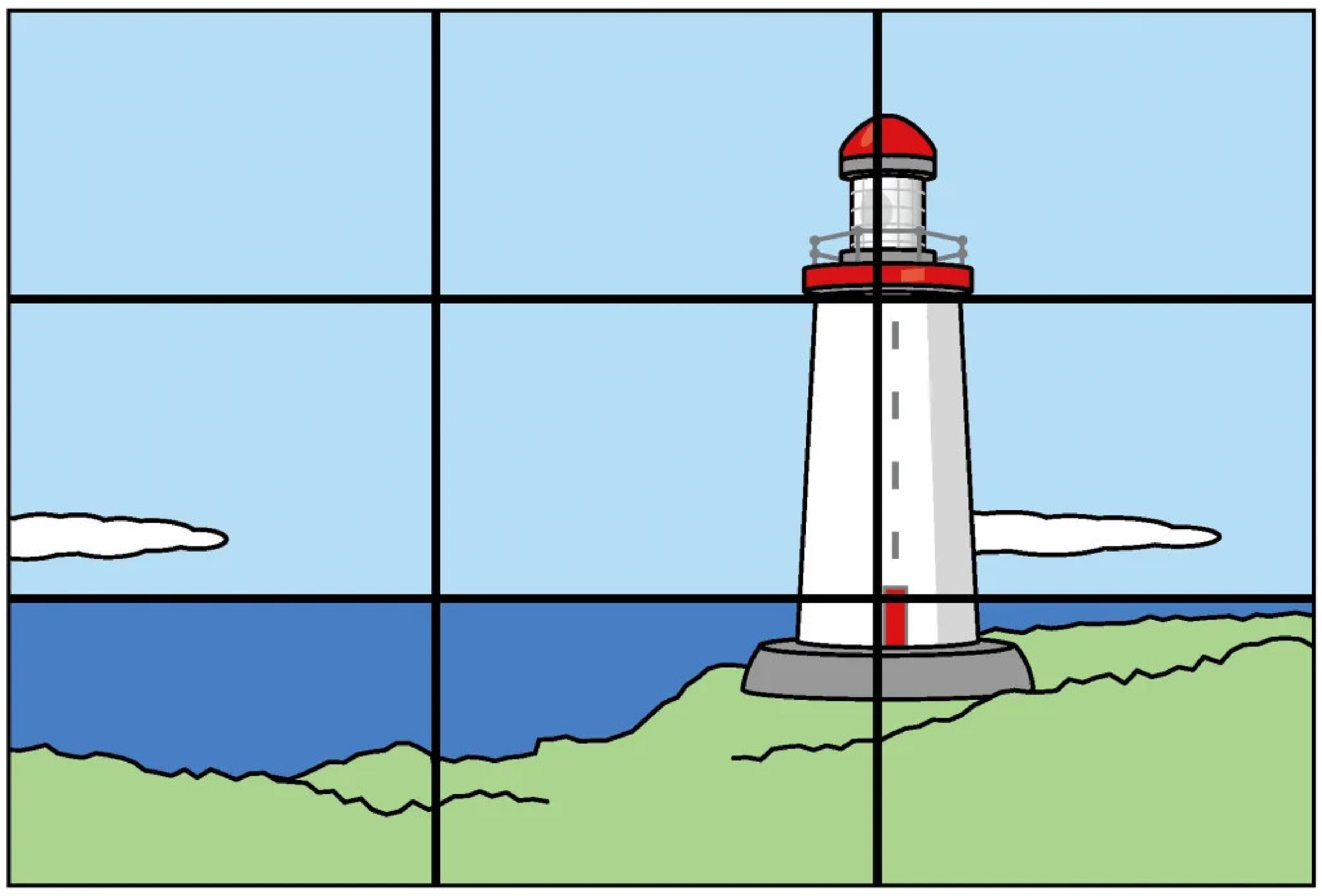


03 A Light (High-Key) Image

A graph weighted to the right indicates an image dominated by bright tones. If the peak touches the right edge, it means the highlights are 'clipped' to pure white, resulting in overexposure.

Composition

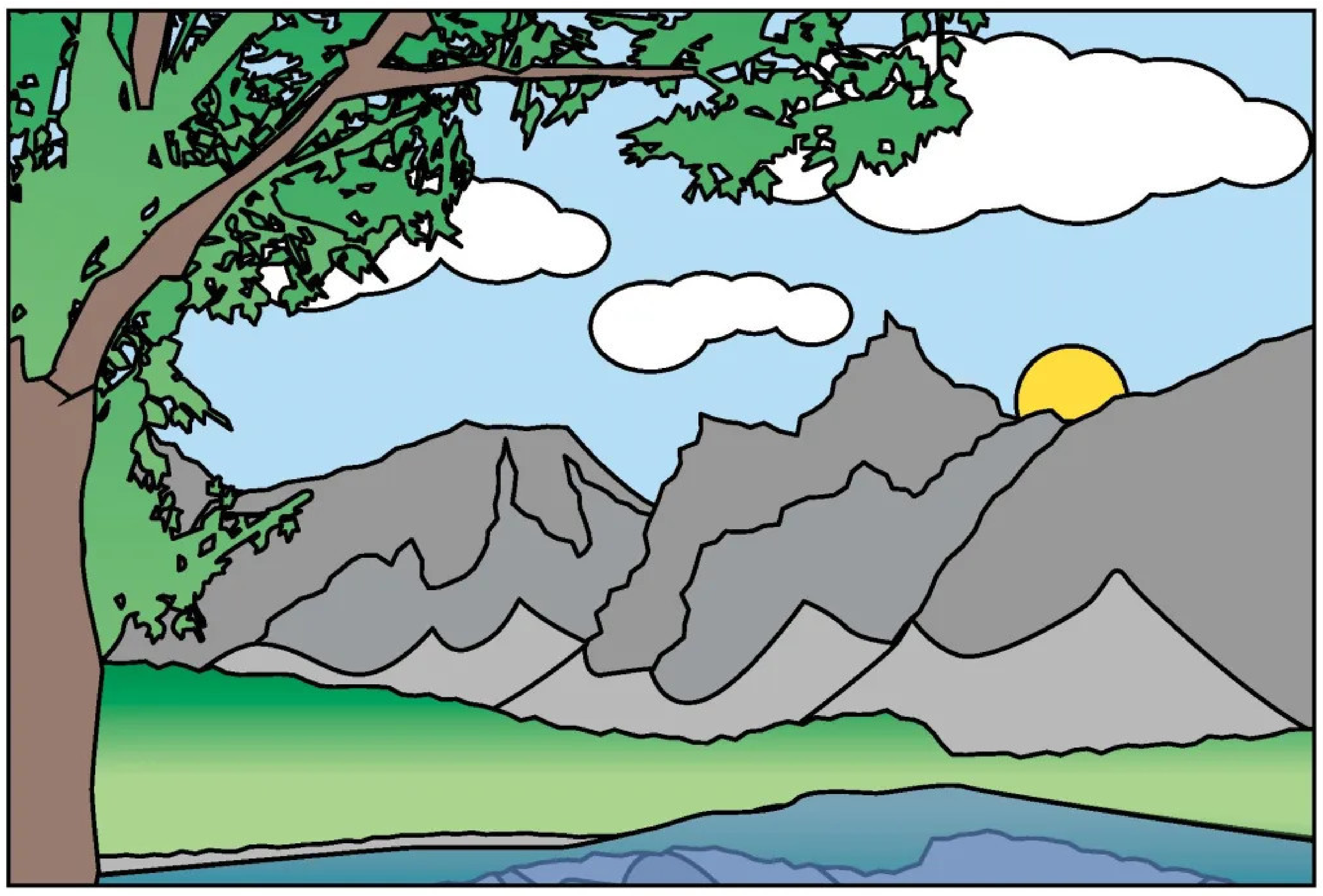
Arranging a scene's elements into a harmonious composition is easy when you know how…



The Rule Of Thirds

Divide a scene into three and place subject(s) on the lines

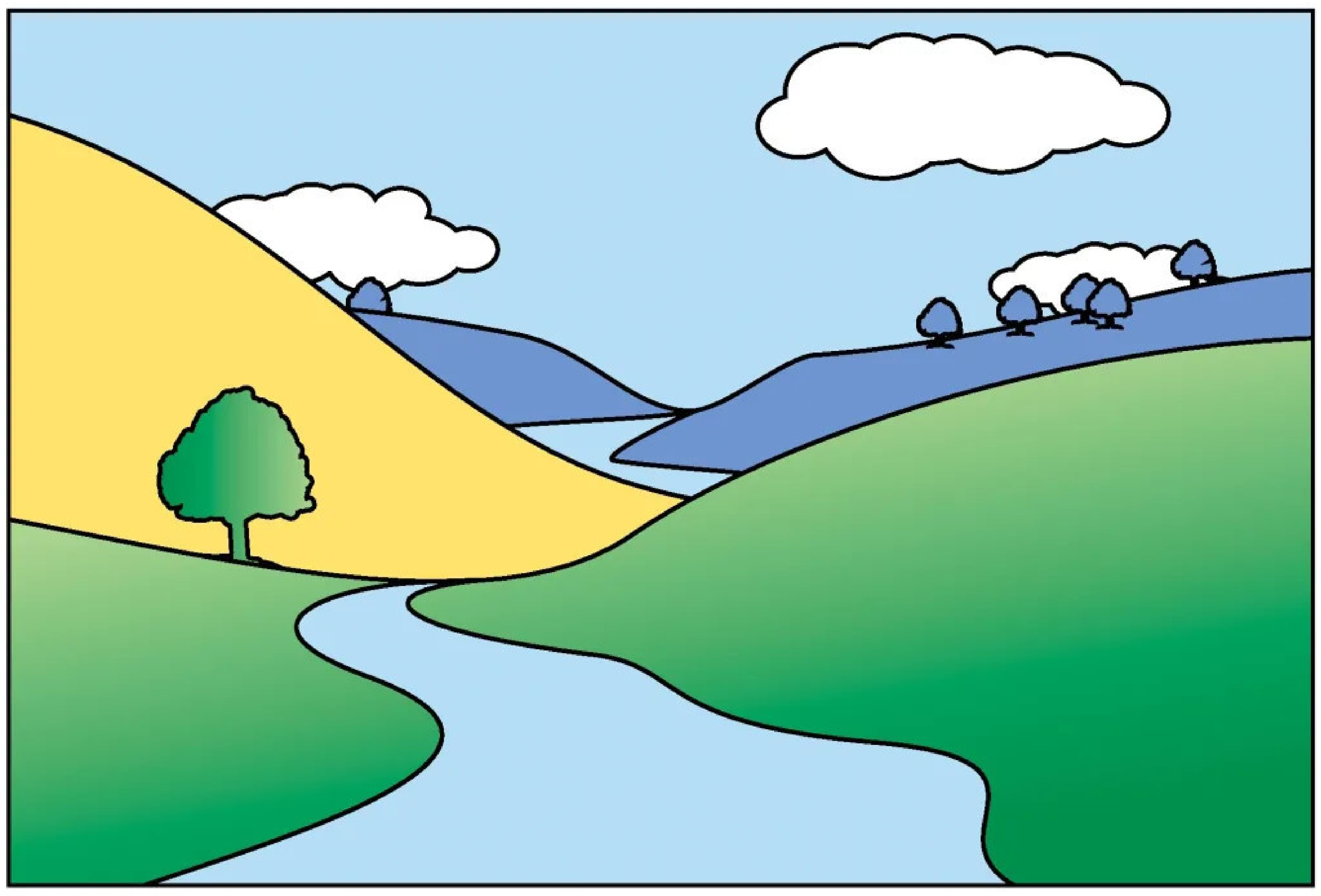
This is a classic technique that works well when the scene has a single, easily definable subject. Place the subject on one of the third lines in the image. Visually, this is more interesting than plonking it in the middle of the frame. For landscapes, place the horizon line on a third. Like all 'rules' of composition, don't be afraid to break it if it leads to a more interesting image.



Frames

Look for natural frames within the frame

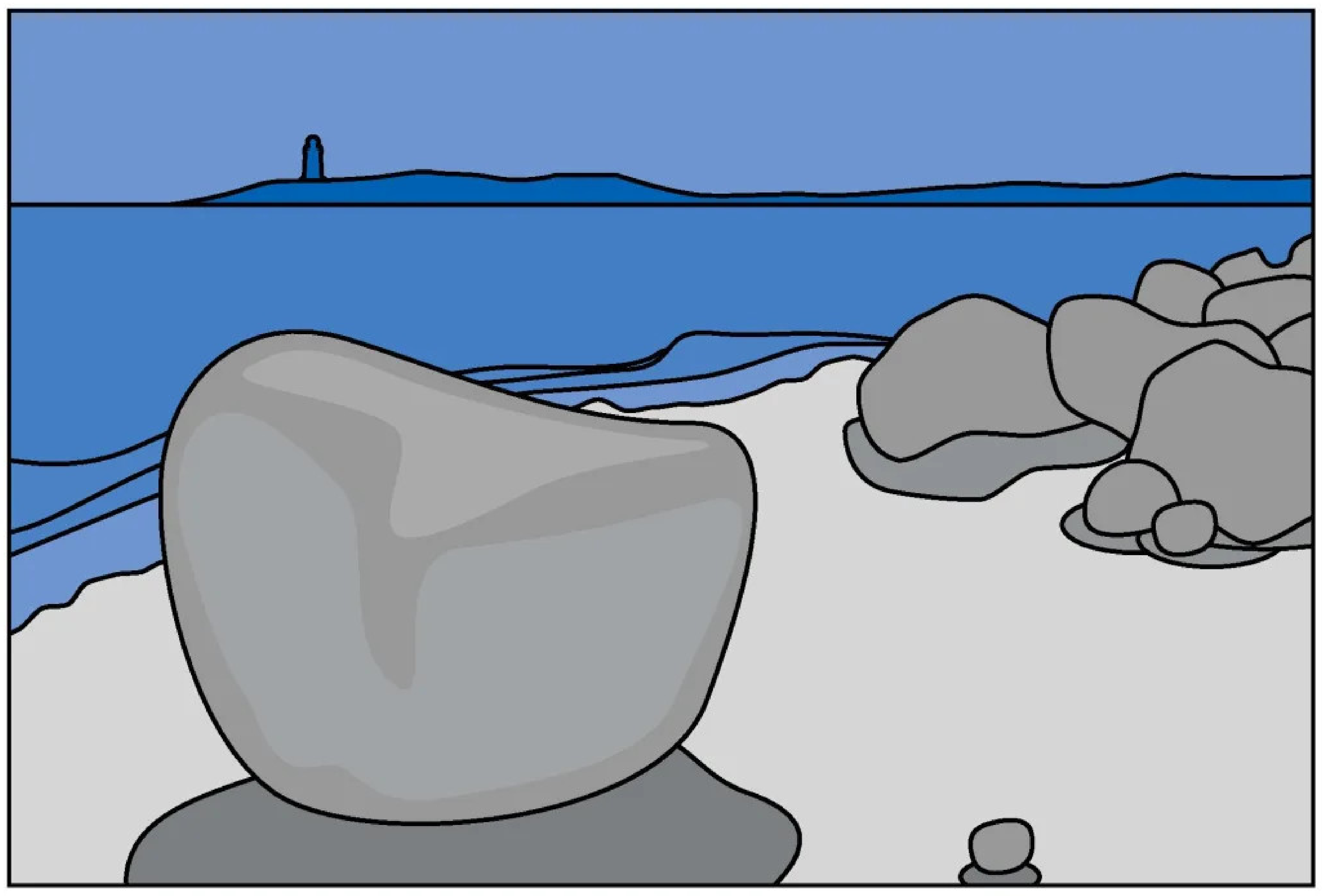
Look for ways to surround the subject with natural frames. This helps to draw the eye in. The most obvious example is a door or window, but if we look around we'll find there are lots of other things we can use, such as the branches of a tree or even the shape of a cloud. And the frame doesn't necessarily need to be between us and the subject: it can be behind it.



Leading Lines

Look for lines that point towards your subject

Straight or bendy, you'll find lines everywhere: roads, rivers, fences, walls, trees, skies… The viewer's eye will naturally be drawn along the lines, so position the subject so the lines lead towards it. With portraits this is easy, as we can ask a person to move to create the perfect composition. With landscapes, though, you need to reposition yourself – possibly by miles!



Foreground Interest

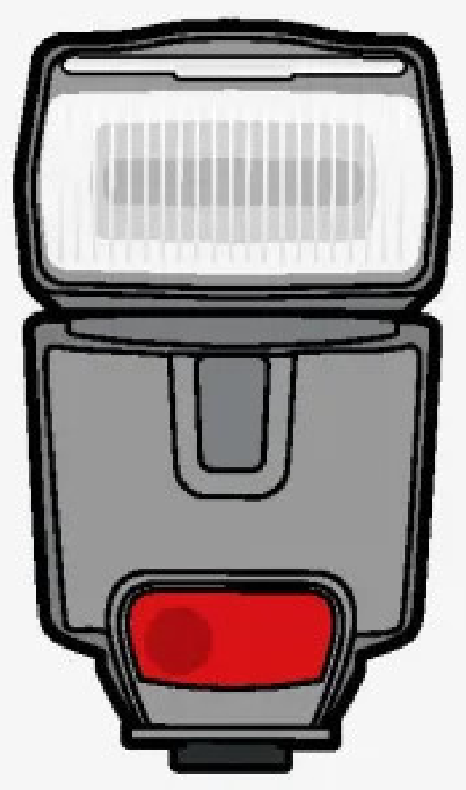
Landscapes can benefit from details at the front

This visual device is often used by landscape photographers. Framing a scene to include details in the foreground helps add interest and leads the eye towards the more distant details. Mossy river banks, clusters of flowers and textured rocks all work well. It's a useful technique, but be wary of overuse – an arbitrary boulder in every landscape gets a bit boring.

Essential gear

Here's what any fledgling photographer needs...

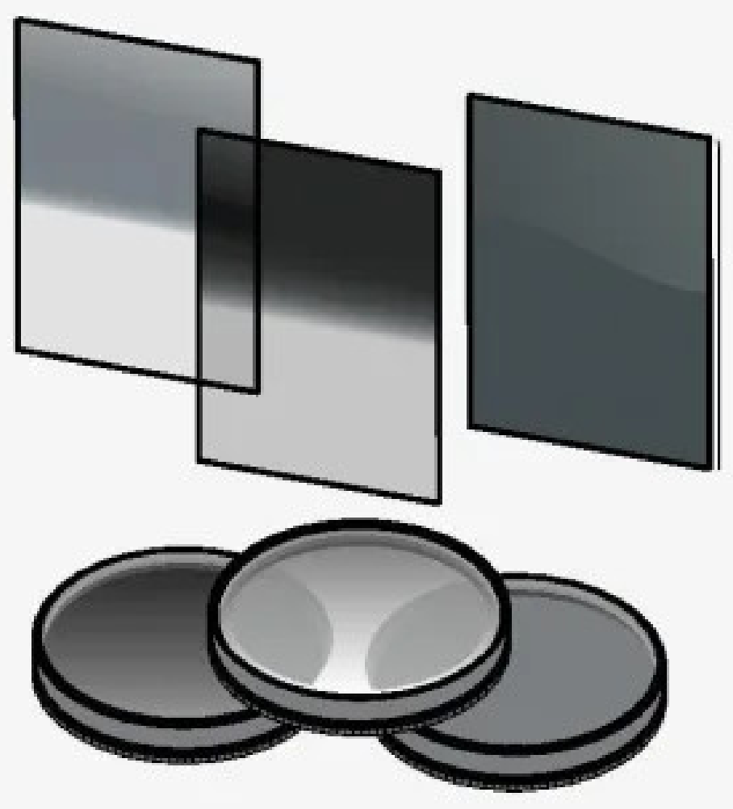
YOUR FIRST KIT BAG



01

Flashgun

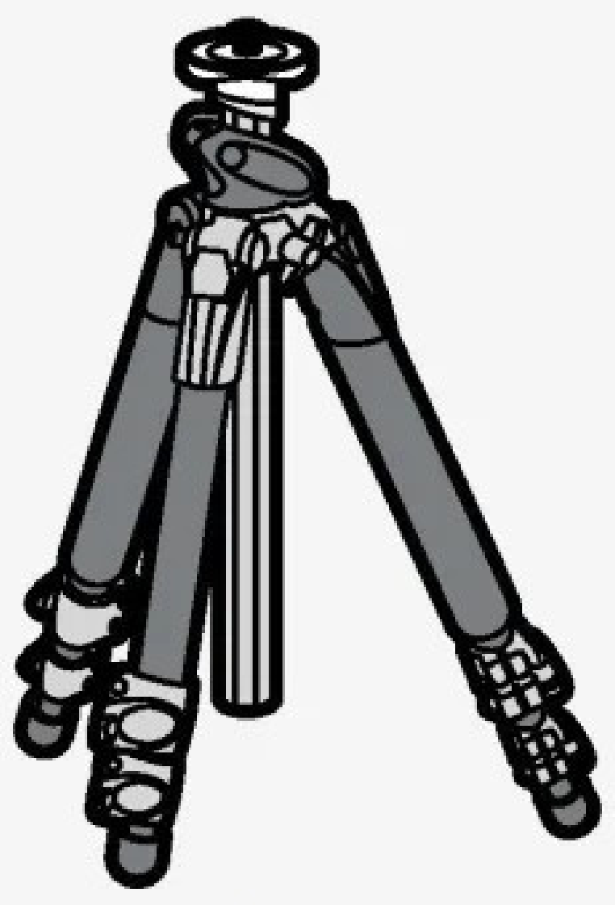
Aside from being more powerful than your camera's pop-up flash, a flashgun can be swivelled to bounce off walls or ceilings, or fired off-camera to light your subject from any direction.



02

Filters

Lens-mounted filters offer a variety of effects. A polarizing filter intensifies colours and contrast; a neutral-density (ND) filter cuts out light; and an 'ND grad' (graduated) balances landscapes by darkening skies.



03

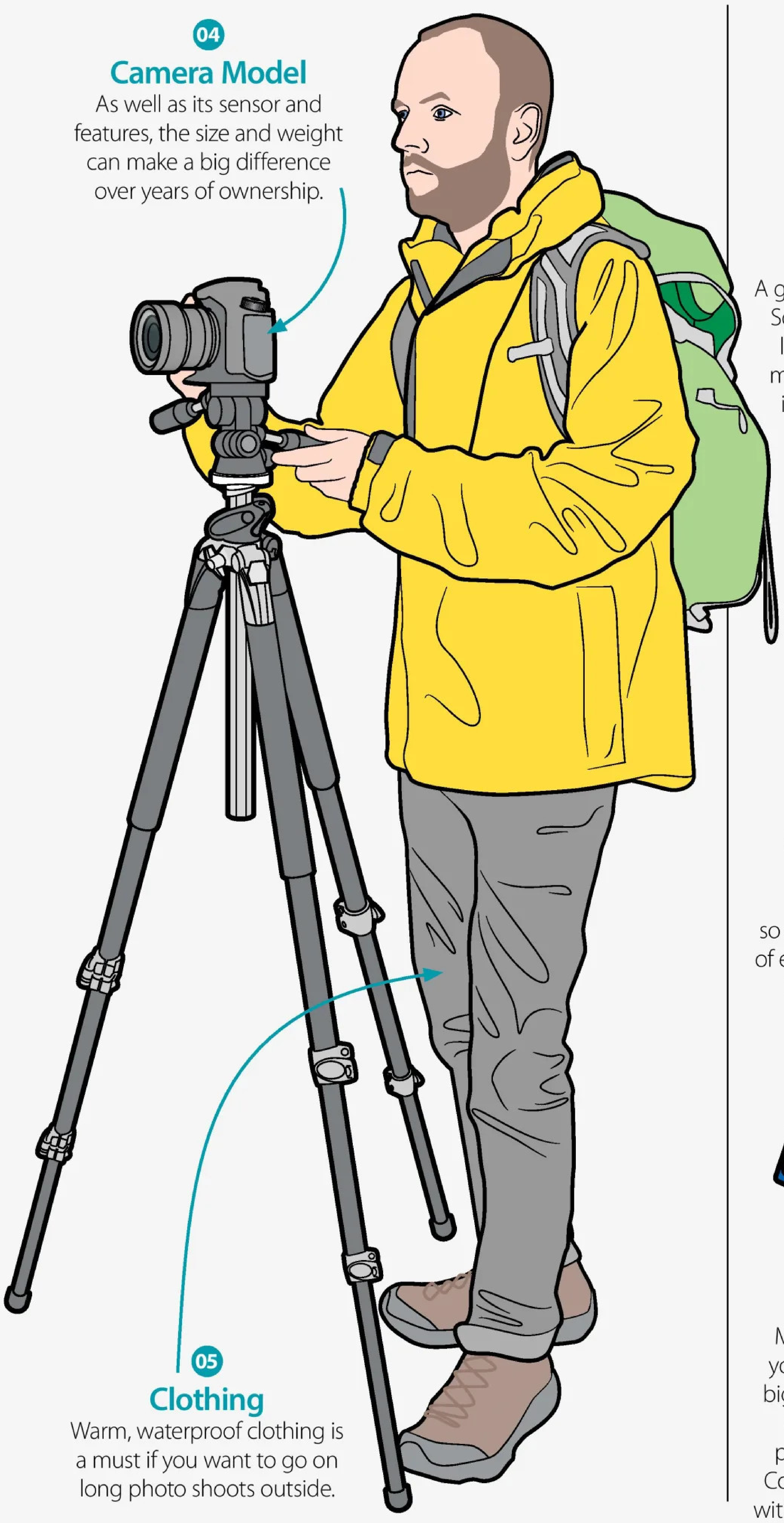
Tripod

A robust tripod is one of the first pieces of kit any new photographer should buy. Being able to keep the camera still opens the door to slower shutter speeds, for a multitude of photographic effects.

04

Camera Model

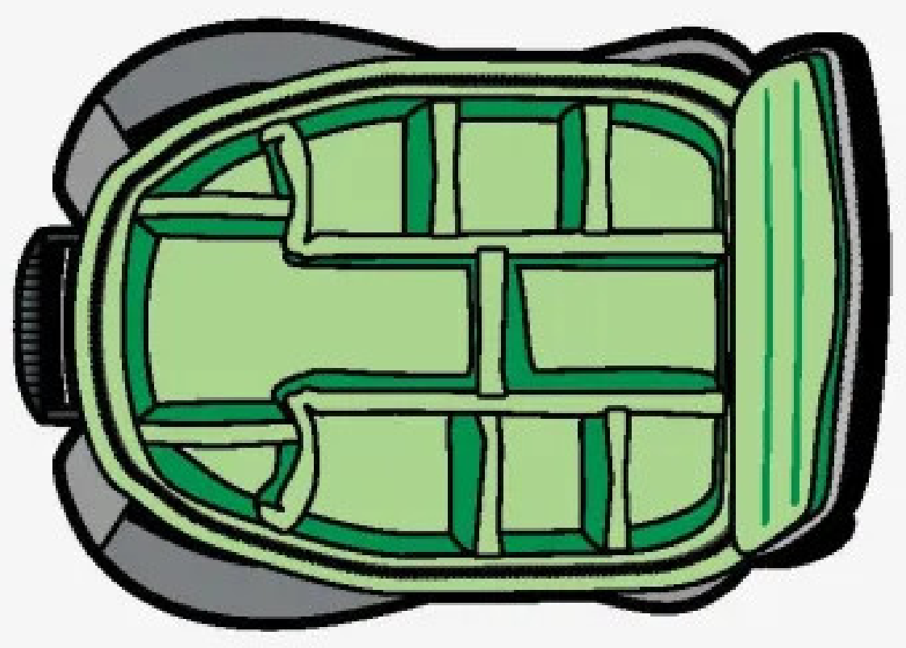
As well as its sensor and features, the size and weight can make a big difference over years of ownership.



05

Clothing

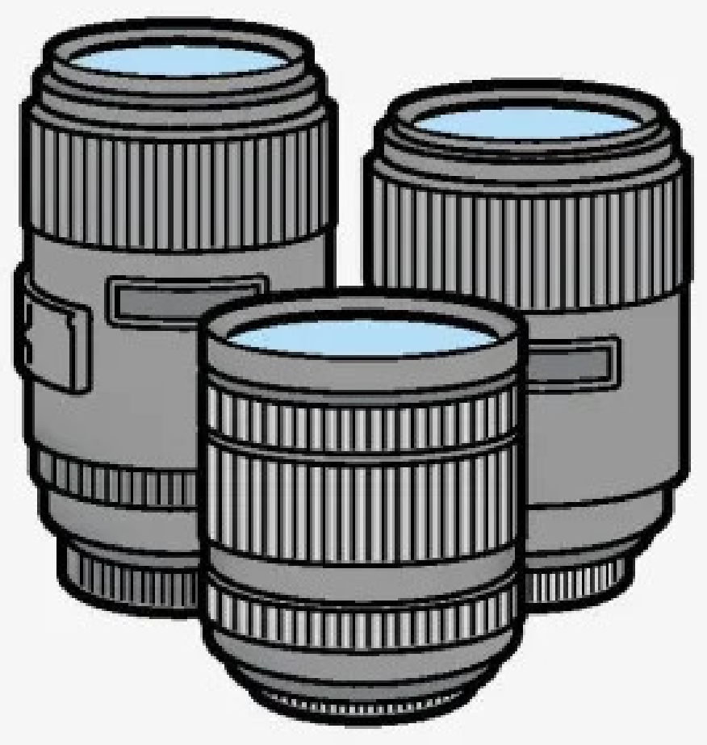
Warm, waterproof clothing is a must if you want to go on long photo shoots outside.



06

Backpack

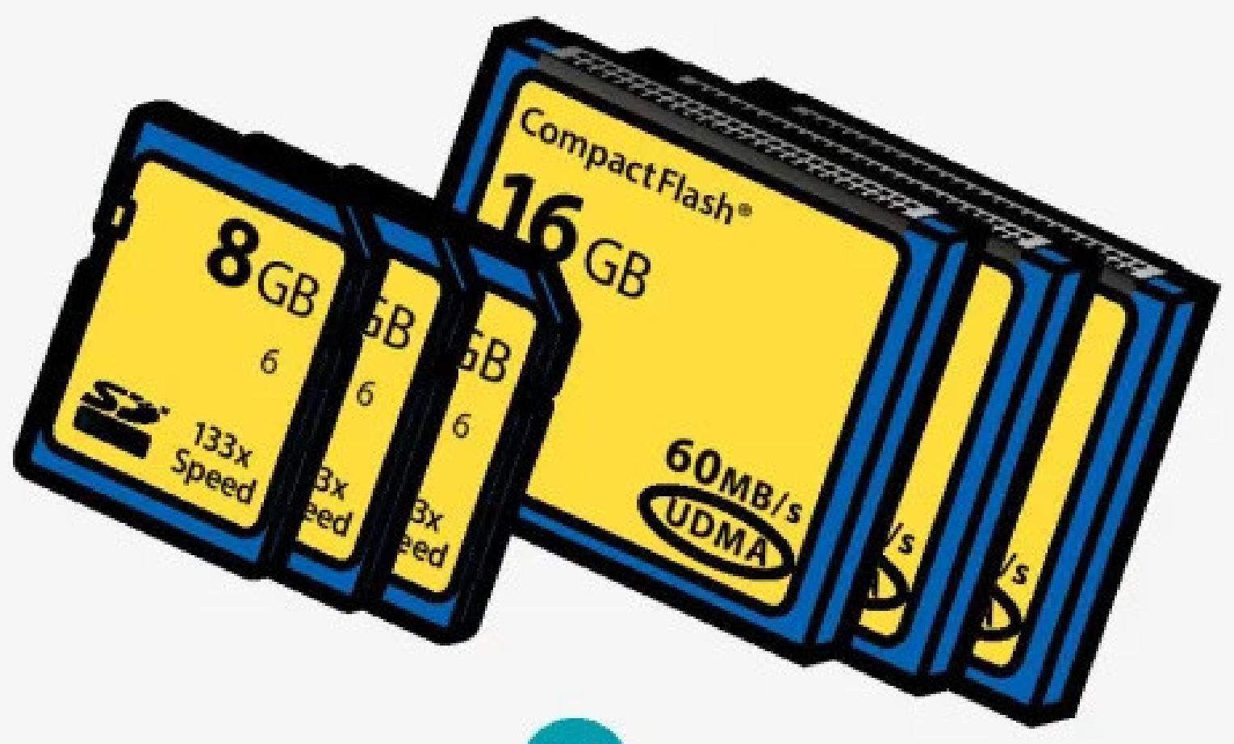
A good camera bag will last for years. Some prefer shoulder bags, others like backpacks. Think about how many lenses you want to carry and if there's a fastener for your tripod. (graduated) balances landscapes by darkening skies.



07

Extra lenses

One of the biggest advantages to owning a digital SLR is the interchangeable lens system, so gradually build up your collection of extra lenses. A quality lens is just as important as the camera body.



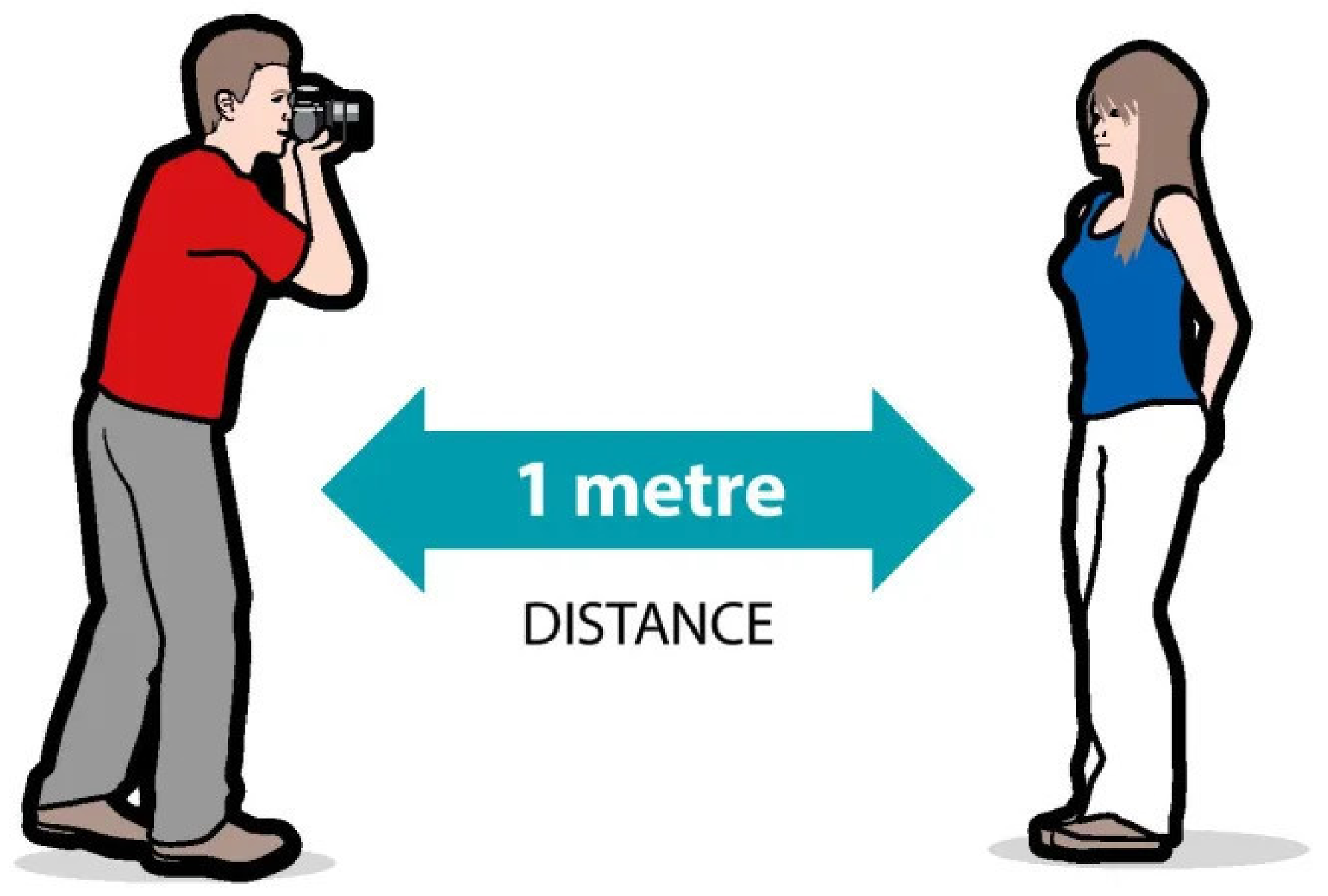
08

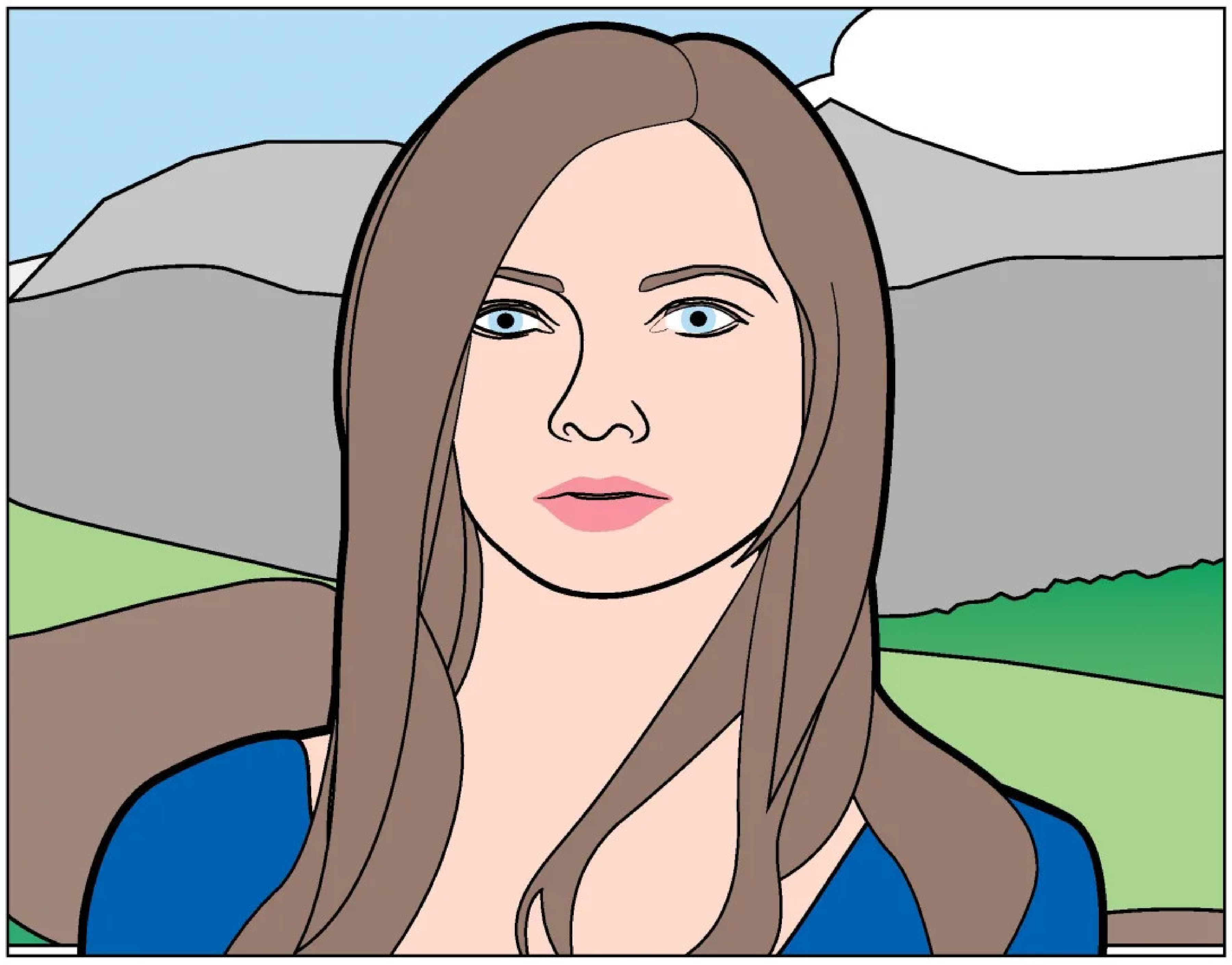
MEMORY CARDS

Memory cards are cheap, so grab yourself a couple of spare 16GB (or bigger) cards to ensure you're never caught short of memory. If you plan on doing lots of High-speed Continuous shooting, look for cards with a write speed of at least 30MBps.

Focal lengths and viewpoints

Your choice of lens and angle of view affect your composition

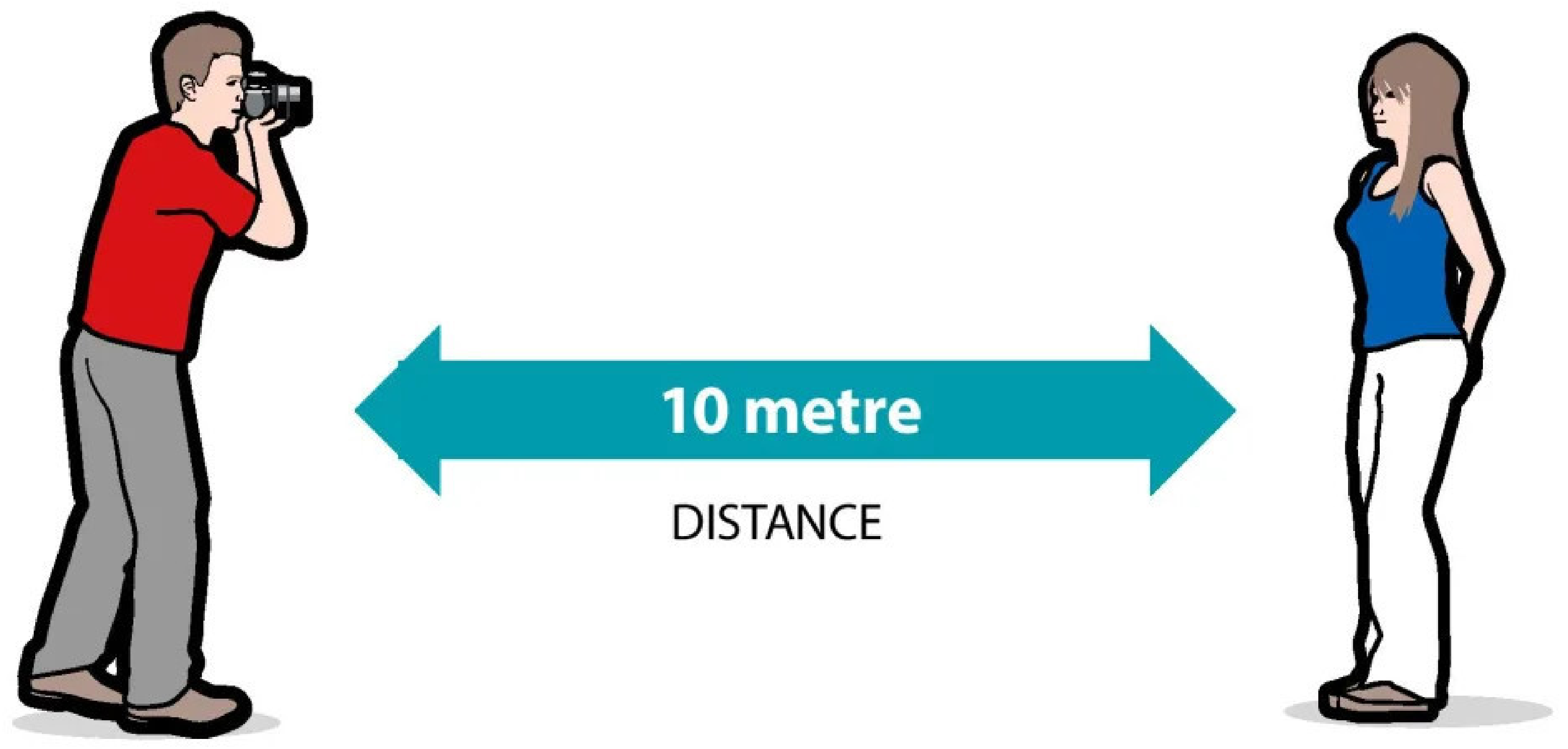


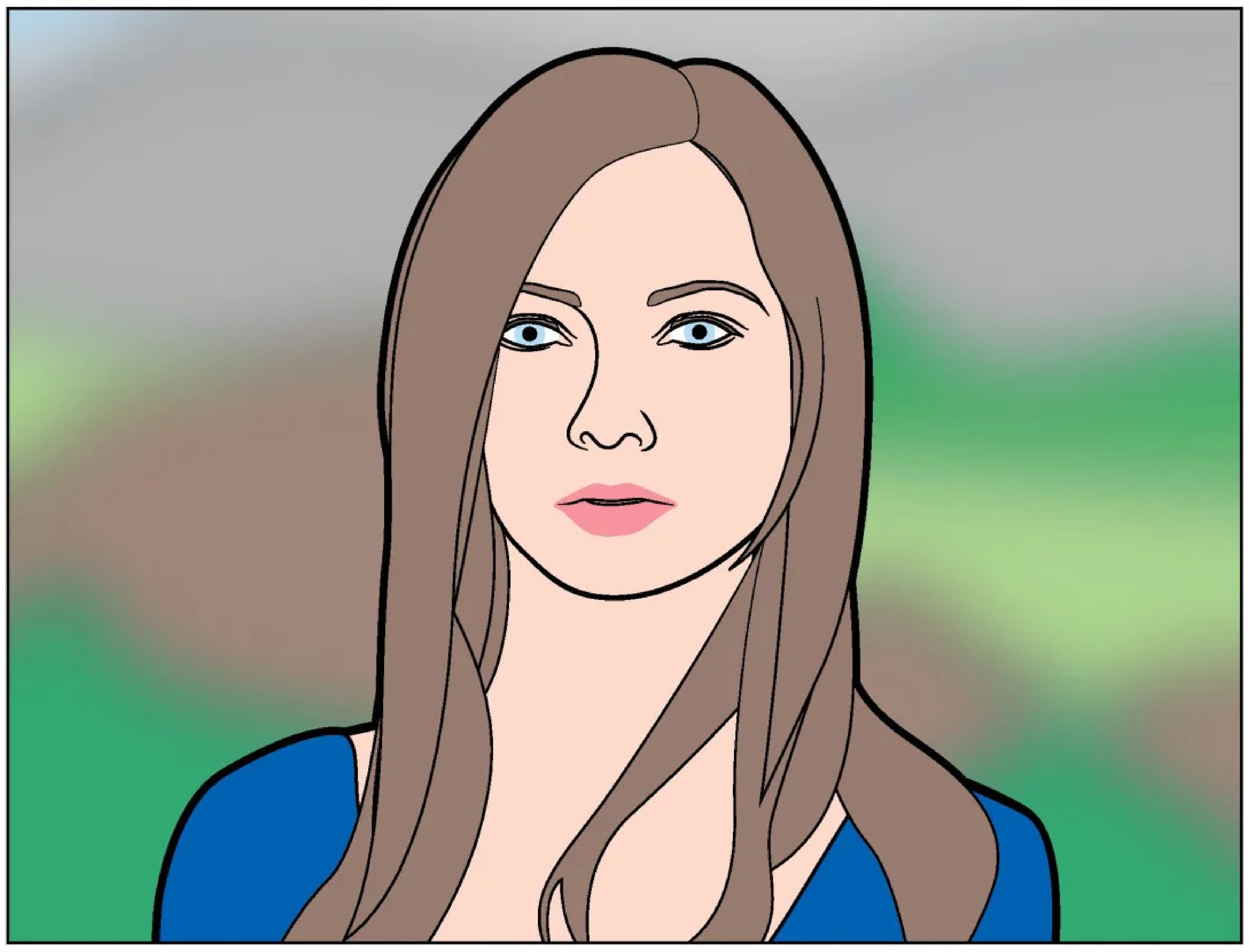


Wide Angle

Shorter lenses fit more of the scene in the frame

The angle of view of a lens is determined by its focal length. Wide-angle lenses have a focal length of 24mm or below and let you fit more of a scene into the frame. They're useful for shooting landscapes or architecture. But wide-angle lenses also exaggerate perspective and create distortion, which can be unflattering if you're shooting people close-up.





Telephoto

Longer lenses get you closer to distant subjects

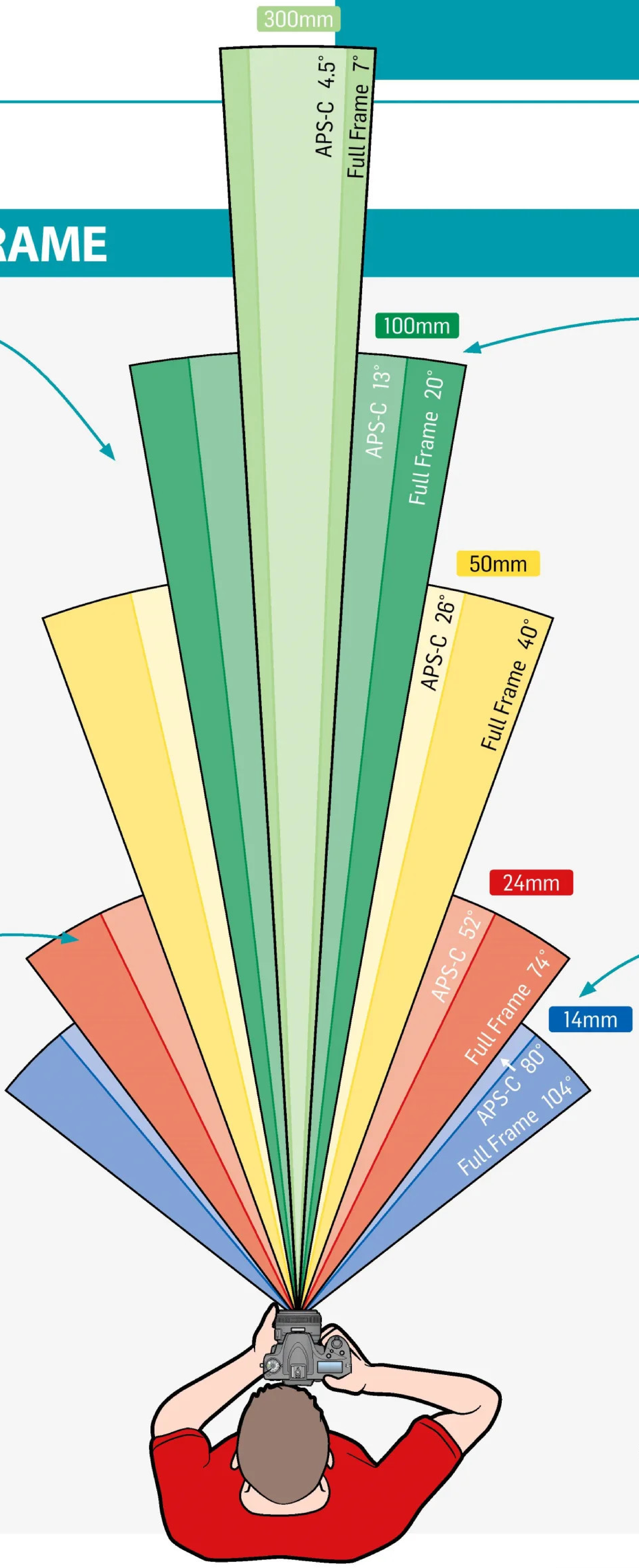
A telephoto lens (anything above a focal length of 85mm) gives a tight angle of view. This enables you to zoom in to distant details or focus attention on a small portion of a scene. Backgrounds are also blurred when using a telephoto, because of the longer focal length. Longer lenses are generally more flattering for portraits as they tend to 'flatten' perspective. In landscape shots, they can isolate subjects.

ZOOM LENS OR PRIME?

Lenses can be divided into zooms and primes. Zooms offer a range of focal lengths, such as 18-55mm or 70-200mm. Primes offer a single or 'fixed' focal length, such as 50mm or 85mm (a favourite of portrait photographers).

What primes lack in versatility, they typically make up for with greater sharpness and wider apertures. Very wide apertures make it possible to shoot in low light and give minimal depth of field, leading to beautiful background blur.

APS-C VS FULL-FRAME



01

The Crop Factor

Digital SLRs have either a full-frame sensor – so called because it matches the size of 35mm film – or an APS-C format sensor, which is slightly smaller (36 x 24mm vs 23.6 x 15.7mm). APS-C-based SLRs are also known as crop-sensor cameras. This is because the APS-C sensor only captures the centre portion of the frame seen by the lens, just as if the full-frame image had been cropped afterwards. Nikon APS-C sensors effectively zoom to 1.5x when compared to a full-frame sensor.

02

Full-Frame Terminology

Nikon's range of full-frame camera bodies and lenses are called FX, and the crop-sensor range is DX. FX lenses can be used on DX bodies, and while DX lenses can also be used on FX bodies, the image will be cropped to the DX format to prevent vignetting.

03

Changing Viewpoints

Focal length numbers can be confusing, especially when you factor in the sensor size. Place a 50mm lens on a full-frame camera and the angle of view will be a traditional 50mm view – a spread of around 40 degrees. But put the same 50mm lens on a DSLR with an APS-C sized sensor and the angle of view will tighten to around 26 degrees, comparable to a 75mm focal length on a full-frame body.

04

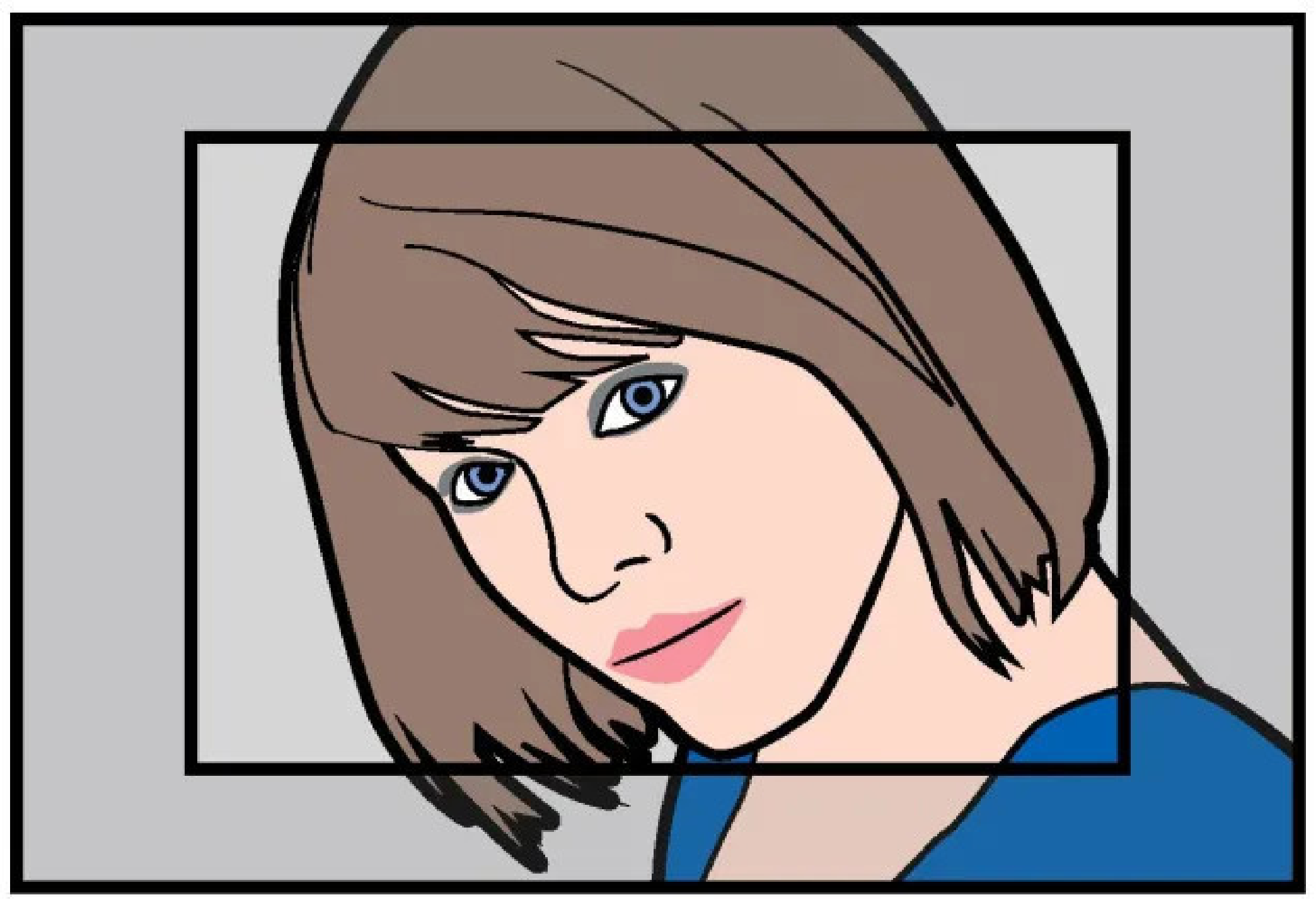
Sensors And Depth Of Field

As well as the angle of view, sensor size also has a bearing on depth of field. The larger the sensor size, the less depth of field because you typically use longer focal lengths. This is why cameras with small sensors, such as smartphones, find it harder to produce a shallow depth of field, and perform poorly in low light. And it's also why large-format 5x4 cameras need apertures that stop down to f64 for front-to-back sharpness.

Choosing a sensor size

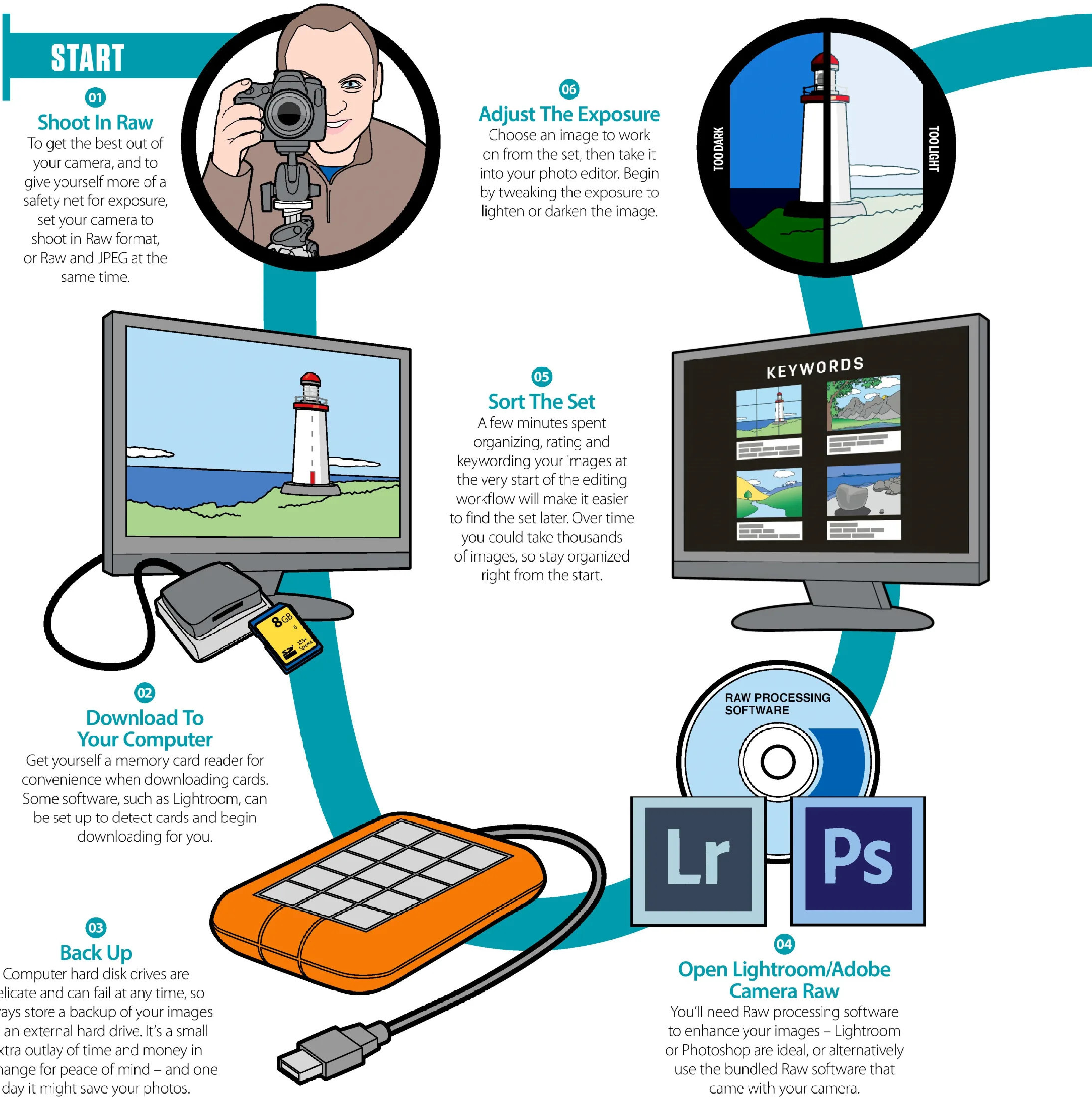
Should you look for a full-frame or an APS-C sensor in your next camera?

When you buy a new SLR, the big question is: full-frame or APS-C sensor? Pros mainly favour full-frame: they have better low-light performance; generally have a higher dynamic range; and give an accurate rendition of traditional focal lengths – so a 50mm lens acts just as it would with an old film camera. However, full-frame cameras are more expensive. APS-C sensors are more suited to beginners. APS-C cameras can be used with lenses designed for either sensor size.



Your digital workflow

The key steps, from pressing the shutter to printing the photo



01

Shoot In Raw

To get the best out of your camera, and to give yourself more of a safety net for exposure, set your camera to shoot in Raw format, or Raw and JPEG at the same time.

02

Download To Your Computer

Get yourself a memory card reader for convenience when downloading cards. Some software, such as Lightroom, can be set up to detect cards and begin downloading for you.

03

Back Up

Computer hard disk drives are delicate and can fail at any time, so always store a backup of your images on an external hard drive. It's a small extra outlay of time and money in exchange for peace of mind – and one day it might save your photos.

04

Open Lightroom/Adobe Camera Raw

You'll need Raw processing software to enhance your images – Lightroom or Photoshop are ideal, or alternatively use the bundled Raw software that came with your camera.

05

Sort The Set

A few minutes spent organizing, rating and keywording your images at the very start of the editing workflow will make it easier to find the set later. Over time you could take thousands of images, so stay organized right from the start.

06

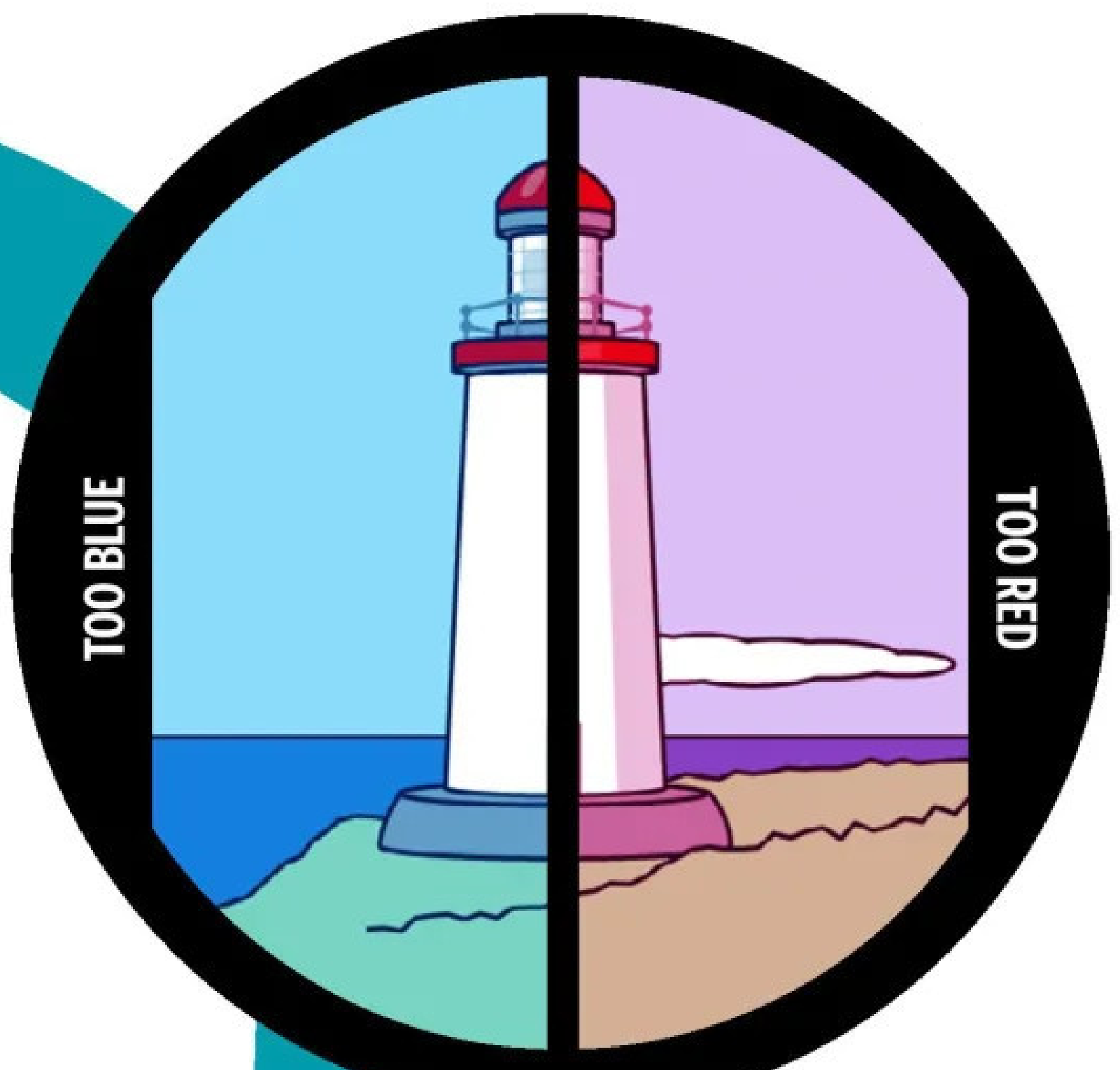
Adjust The Exposure

Choose an image to work on from the set, then take it into your photo editor. Begin by tweaking the exposure to lighten or darken the image.

07

Fix White Balance

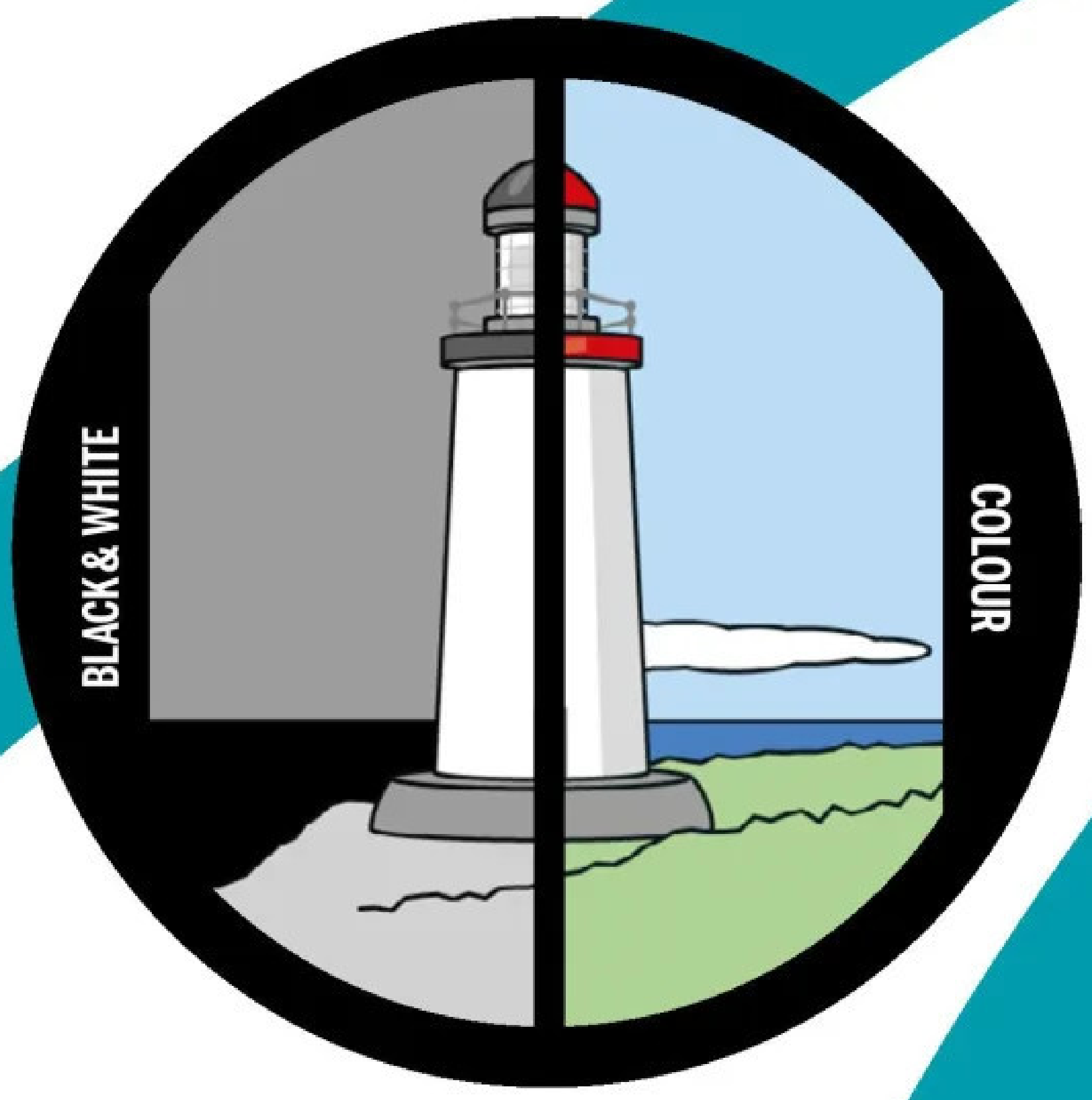
Adjust white balance settings to correct any colour casts. One of the big advantages to shooting in Raw is that you can change the white balance after the fact with no loss in image quality.



09

Black & White Or Colour?

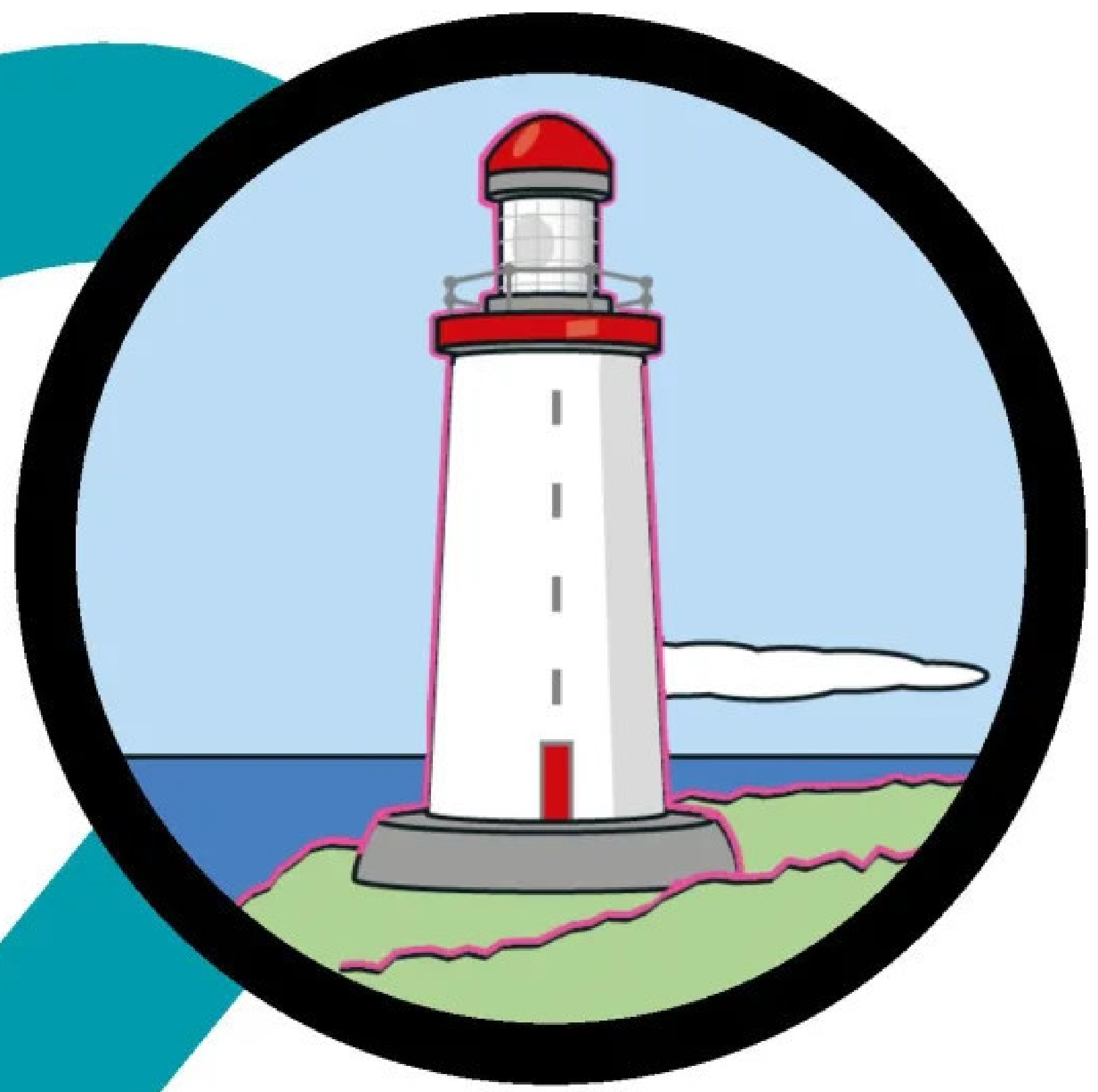
Experiment with a black-and-white conversion if you think the image may benefit from removing the colour. If you choose colour, adjust the saturation and vibrance to boost weak hues.

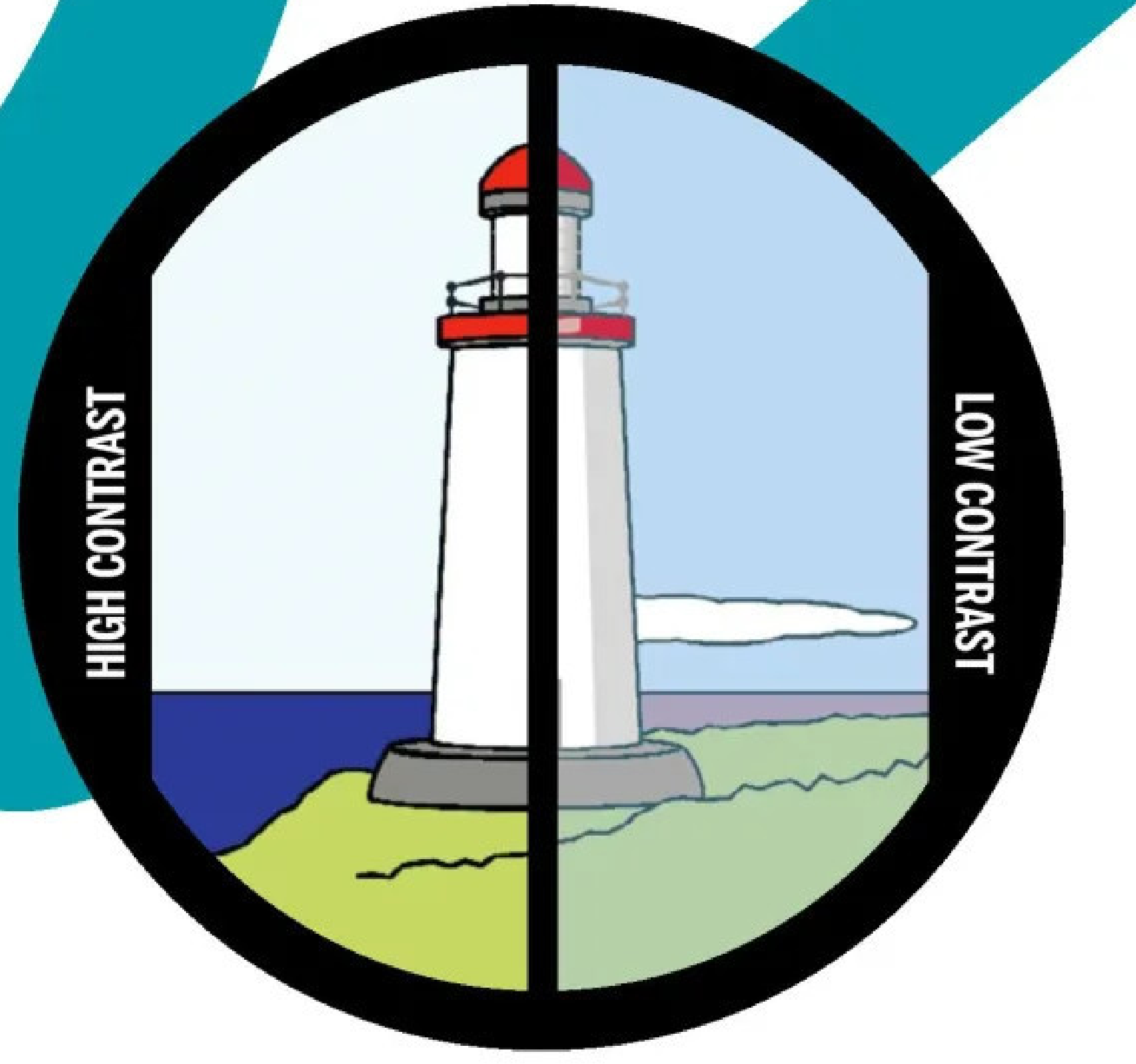


10

Lens Correction

If necessary, consider using lens correction tools to fix problems such as barrel distortion in wide-angle scenes or chromatic aberration – coloured fringes along high-contrast edges.

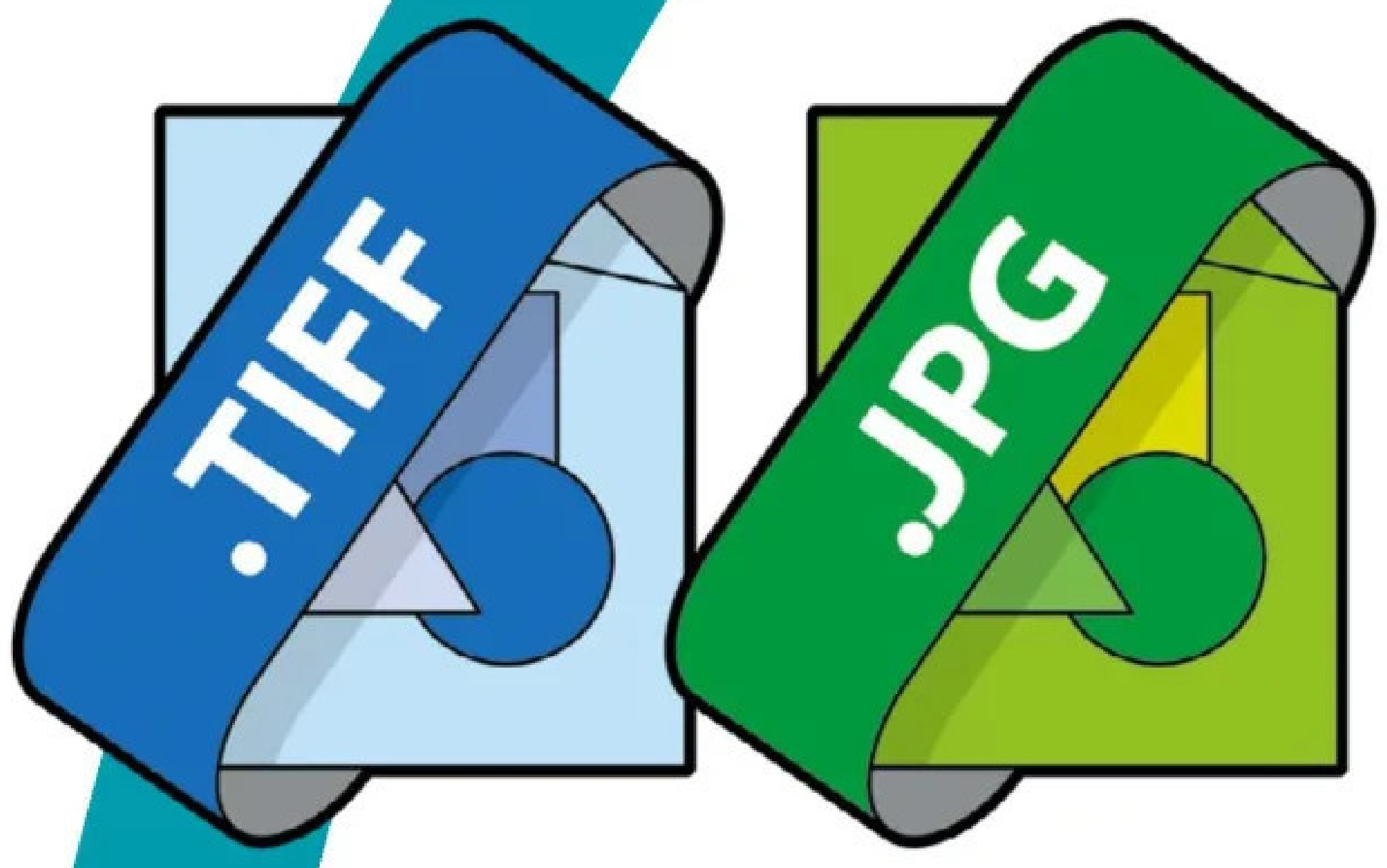




08

Boost Contrast And Clarity

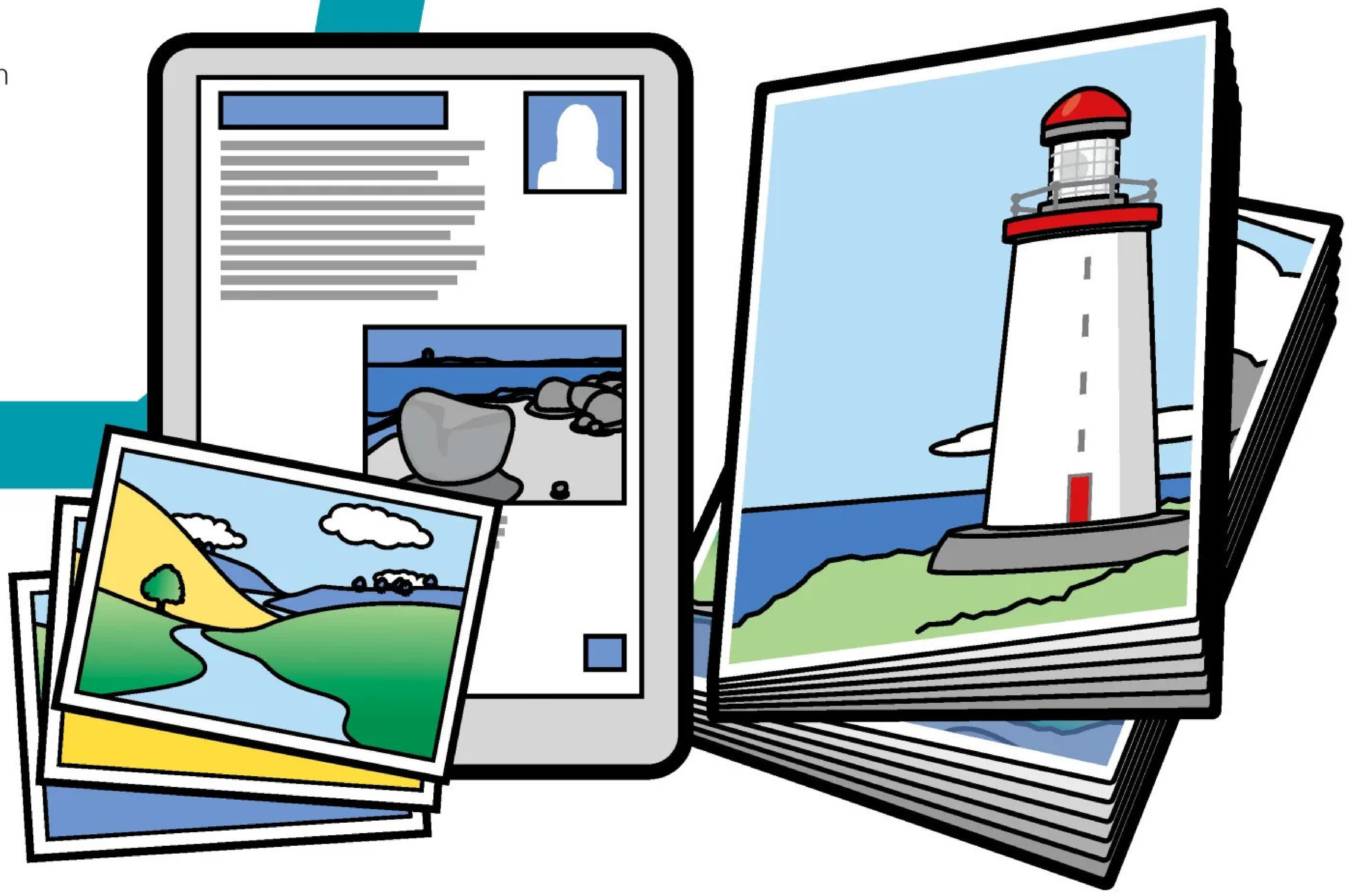
Raw files typically look a little flat at first, as manufacturers assume you will enhance them manually. A boost in contrast or increased clarity will often make for a punchier image.



11

Save As

Raw processing is by nature non-destructive, as the original image is always preserved. So to apply any changes made, save it in a different common image format like JPEG or TIFF.



12

Books, Prints & Social Media

Too many images end up languishing on hard drives after you've gone through them. Take pride in your artwork and show it off by making prints or photo books, and by sharing your favourites on social media or websites.

10 steps to stunning summer landscapes

With long days and dry weather, summer is a fantastic season for photography – follow our 10-step plan for your best landscapes ever!

Page 32
Gear up!
Get kitted out and make a plan of action

Page 34
Use the whole day
Shoot from dawn till dusk and tackle tricky lighting

Page 36
Embrace bad weather
Keep at it, even during stormy conditions

Page 38
Nail your exposure
Capture high-contrast scenes with success

Page 40
Be different
Change your perspective for a fresh approach

1 Get kitted up

For the best chance of success you need to look, feel and dress the part

Donning the trendiest outdoor clothing won't elevate your photography, however it does pay to invest in some practical outdoor garments. The right clothing will protect you against the elements and enable you to shoot for longer in comfort. Summer isn't always sunny, so think about dressing for wet and stormy weather, as well as heat and humidity. Whatever your budget, opt for versatile, water-resistant and lightweight clothes. Look at how well ventilated they are and whether they can be packed away in a camera bag. Pockets are a great asset too, providing easy access to filters, cards and smaller lenses.

Essential Kit

The equipment you'll need to get started

- Nikon DSLR
- Wide-angle lens
- Comfortable bag
- Waterproof bag cover
- Sturdy tripod

Handy extras

- UV filter
- Polarizing filter
- Lens cloth

Bright & Sunny

01

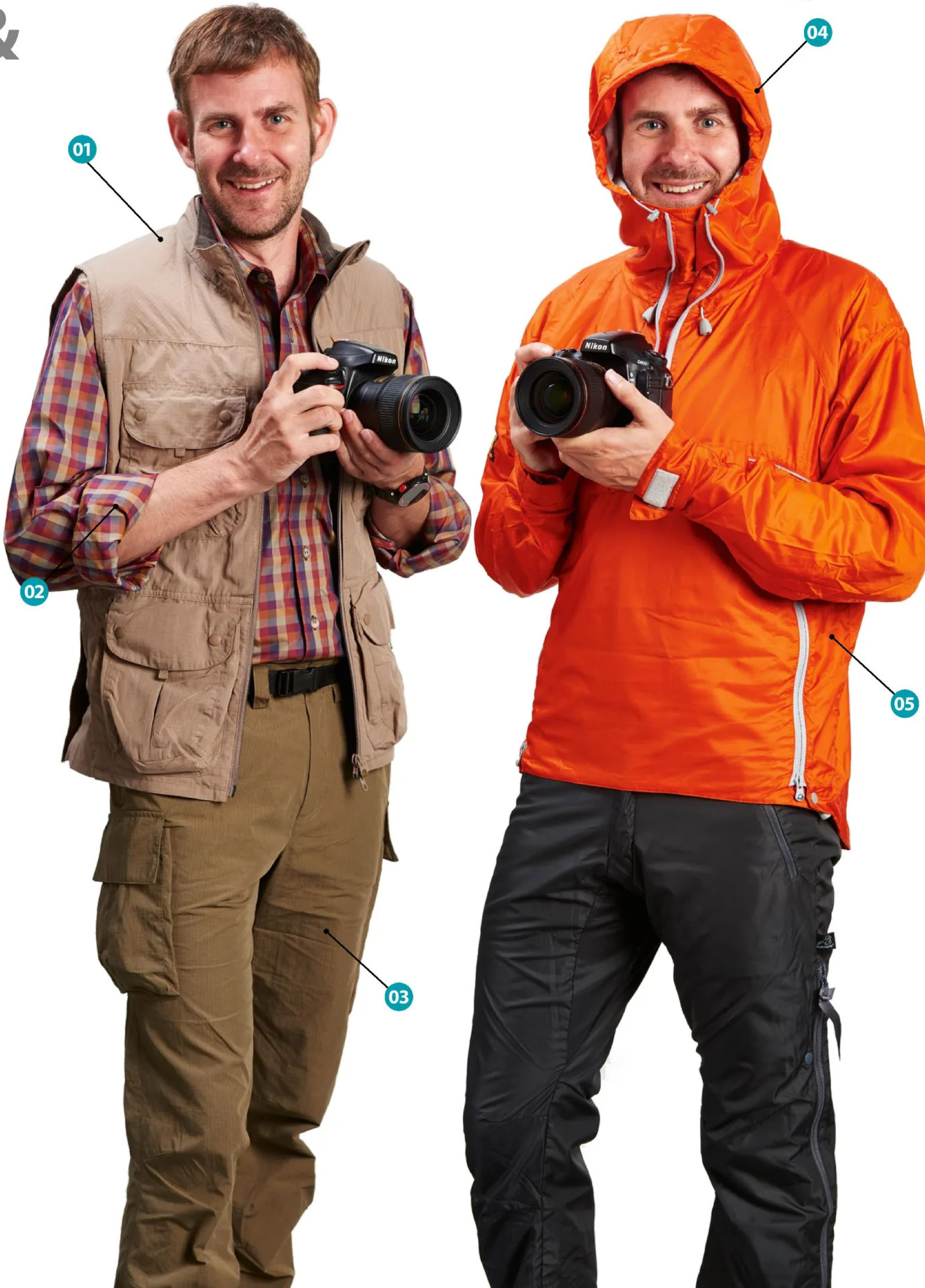
A good waistcoat or gilet will protect you from sun and wind, and provides easy access to kit. This Páramo Halcon Waistcoat is ideal for warm-weather shooting, and has 12 pockets to stash stuff.

02

Base layers should be stretchy, fast-drying and lightweight. Opt for breathable materials, such as merino wool, or technical fabrics with wicking properties.

03

Bottoms should help you stay cool but provide protection from UV and insects. Some outdoor trousers feature a zip just above the knee that enables you to turn them into shorts in seconds.



Wet & Windy

04

You might want a warm hat for early-morning shoots, or to provide protection in strong winds.

05

There's no point in keeping your camera kit dry if you're so wet and miserable you can't concentrate. A waterproof jacket is essential for rainy conditions. This Páramo Velez Adventure Light Smock is waterproof and breathable in humid weather, and only weighs 575g.

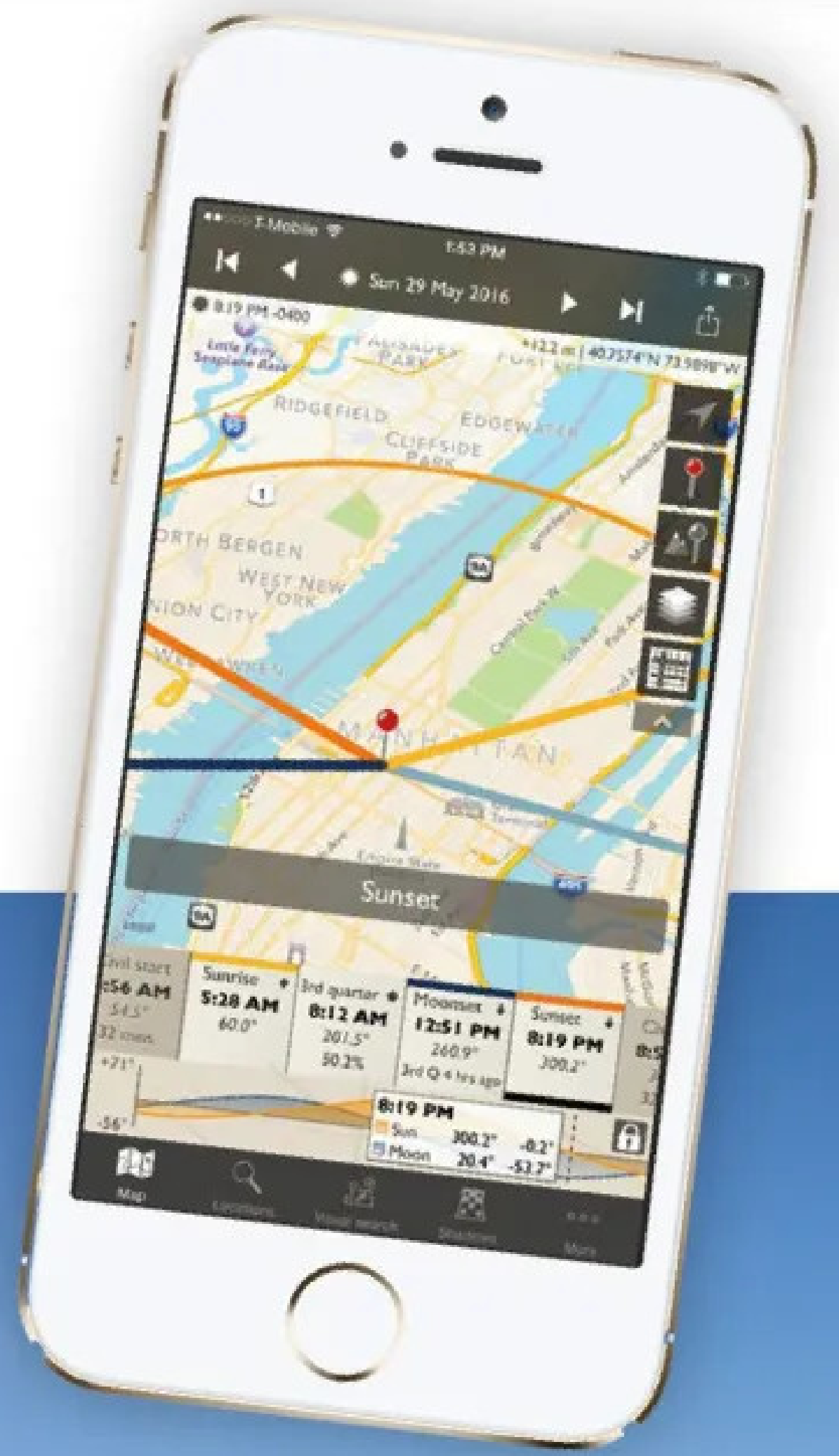
Some companies, such as Páramo (www.paramo-clothing.com), design outdoor garments specifically with photographers in mind. They're often worth paying a bit more for, as they'll last you for years.

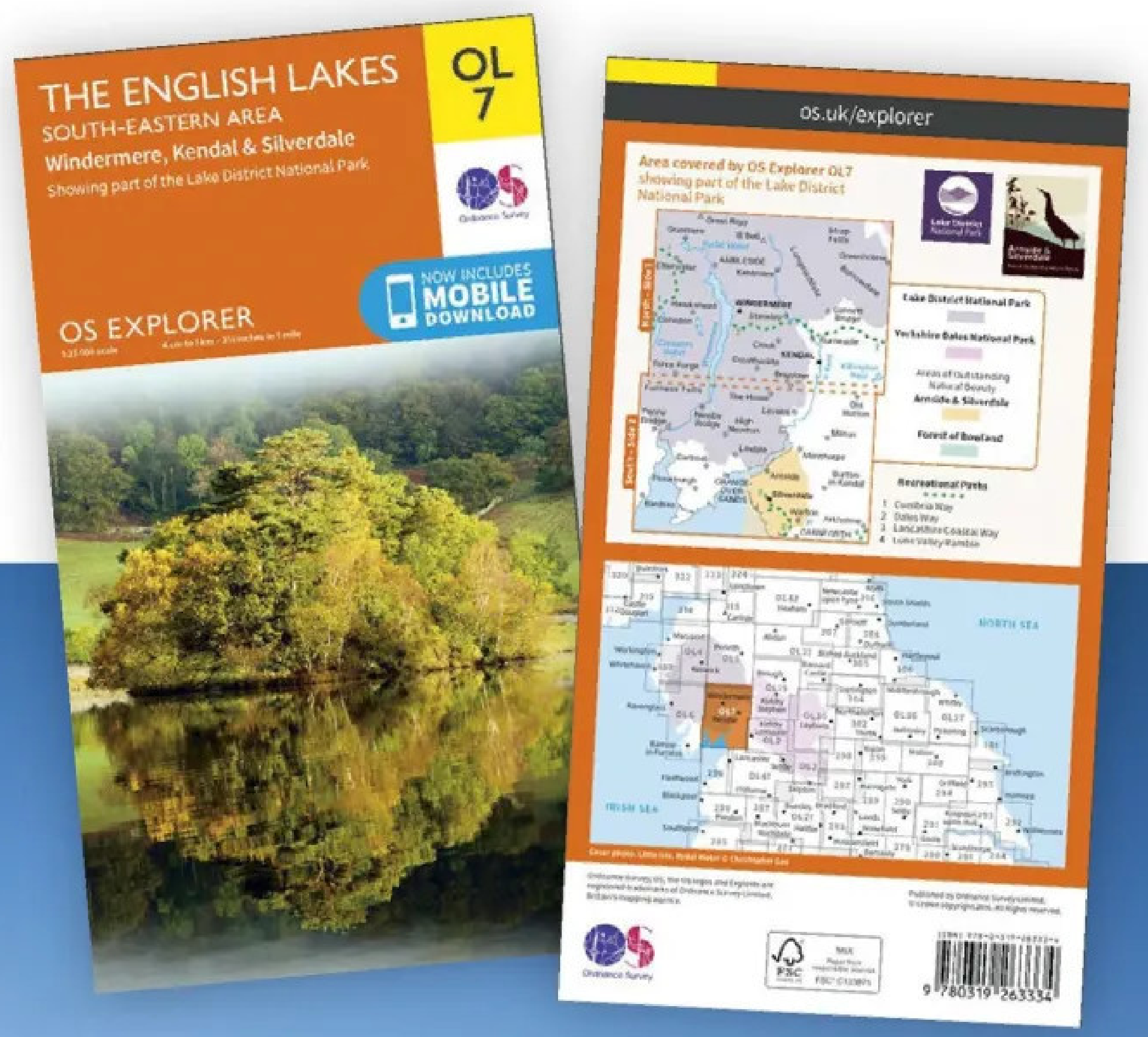
2 Seek inspiration

Where can you look for new shooting locations? Be inspired, but try to be original with your photography too…

The world is a big place, so it's best to have a rough shooting area in mind when you start your research (whether this is a holiday destination, or somewhere closer to home). Your local area might seem dull and familiar, so try looking at it from another point of view. What spots would you recommend to a fellow photographer if they were visiting? If you're able and willing to head somewhere more exotic, you can glean location ideas from travel brochures and guides. Make use of online photo communities for inspiration too. The Flickr World Map (www.flickr.com/map) allows you to scroll around and find photos that have been uploaded and geotagged, and you can enter your own location to narrow the results down. 500px (www.500px.com) is a stunning inspiration source, but don't feel like you have to travel to far-flung places for great results!

It's easy to get carried away with wanderlust. Scale back shoots to suit your budget and time


The Photographer's Ephemeris is available as a desktop or mobile app (www.photoephemeris.com)

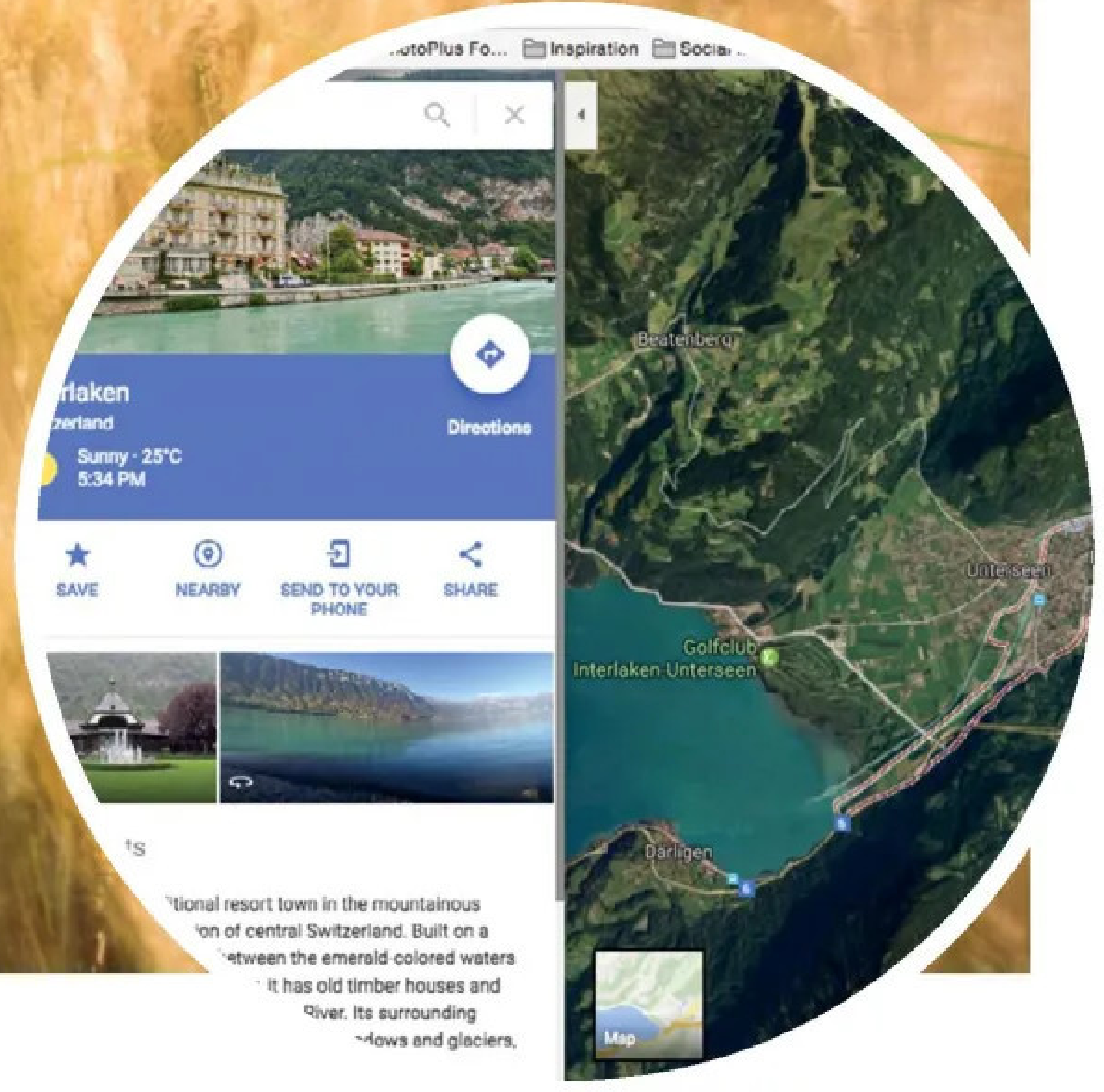


Traditional maps, such as Ordnance Survey, provide a helpful overview of an area and highlight other picturesque spots that might be nearby

3 Do your homework

Make use of popular apps as well as traditional maps to make your pre-shoot preparation count

Forward planning is key for landscape photography, as you're reliant on the weather and light direction being just right. By researching locations thoroughly at home, you're more likely to be rewarded with favourable conditions when you arrive with your Nikon. The Photographer's Ephemeris (TPE) and The Photographer's Transit (TPT) are two apps that are ideal planning companions. TPE displays how the light will fall on the land at any time of day in any location, so why not use it to work out the time and direction of sunrise and sunset in your chosen spot? TPT, meanwhile, provides a great way to check if your planned focal length will capture your scene effectively. But don't neglect paper maps – as well as Google maps – in your logistical quest. Although they're not as pocketable as a phone, they can be spread out on a table to really help you visualize a landscape in more detail.



Francesco Richardo

4

Use the whole day

There's more to summer shoots than getting up early and staying out late

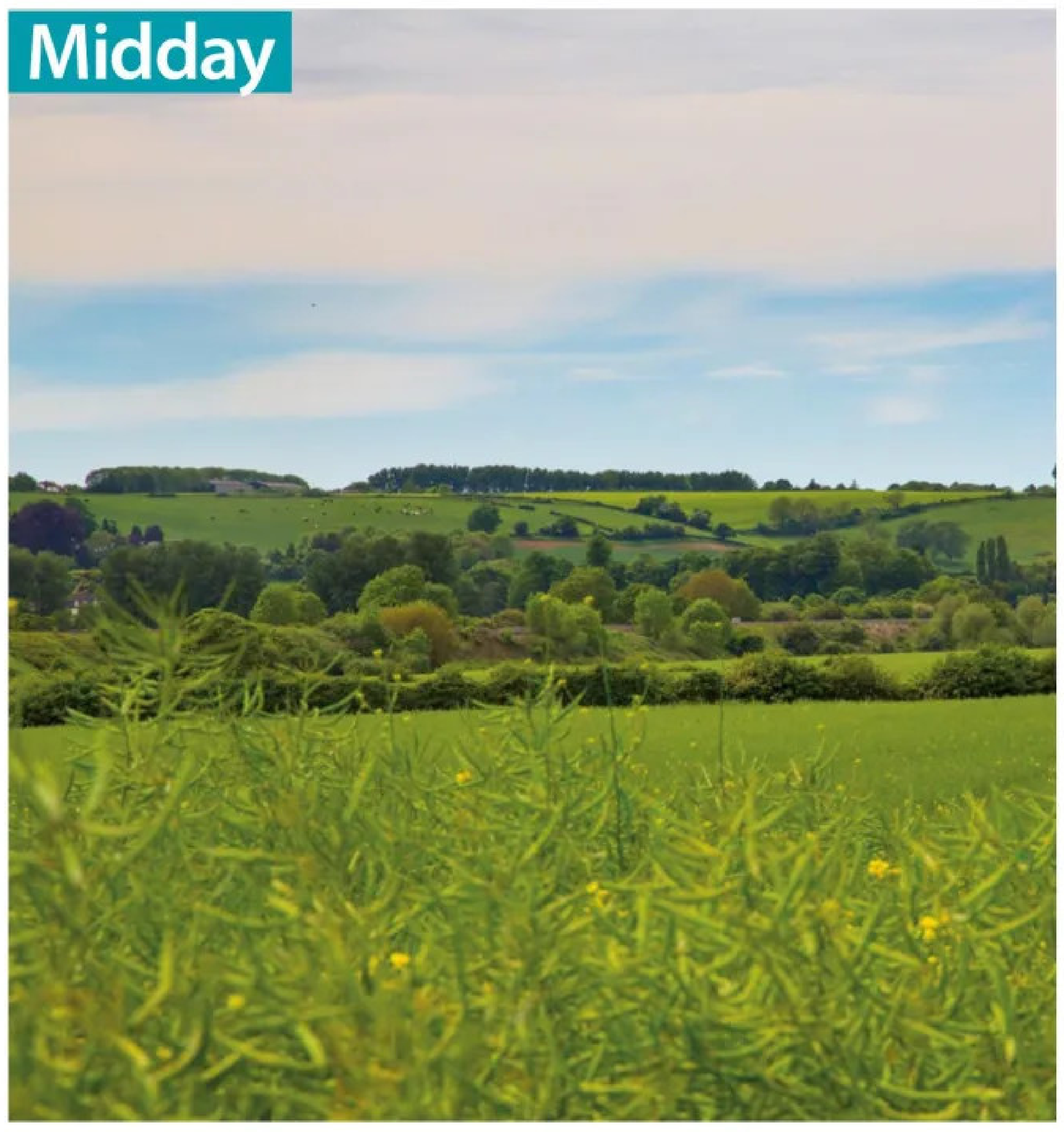
The great thing about shooting in the summer months is the long days and amount of daylight available for you to take advantage of. During the day, however, metering can become tricky. Have you ever looked onto a glimmering ocean view, gone to capture it with your camera, and been disappointed by the result? This is because the human eye can see the equivalent of about 14 f-stops of dynamic range, while Nikon DSLRs are limited to around eight. Don't be disheartened though. As long as you choose the right subject to photograph (under the right conditions), the season can be just as rewarding as any other. Here, we'll encourage you to shoot throughout the day – including in the harsh, high and bright midday light. You could try to shake up your composition to avoid contrast completely, or use shade to your advantage. It's time to make friends with midday…

Shooting summer scenes with a longer focal length simplifies the composition. Excluding a bright sky can make exposure easier, too

Sunrise

Early-morning light tends to be cooler. Arrive at least 30 minutes before actual sunrise to set up

Midday



Light in the middle of the day can make landscapes look a bit flat and two-dimensional

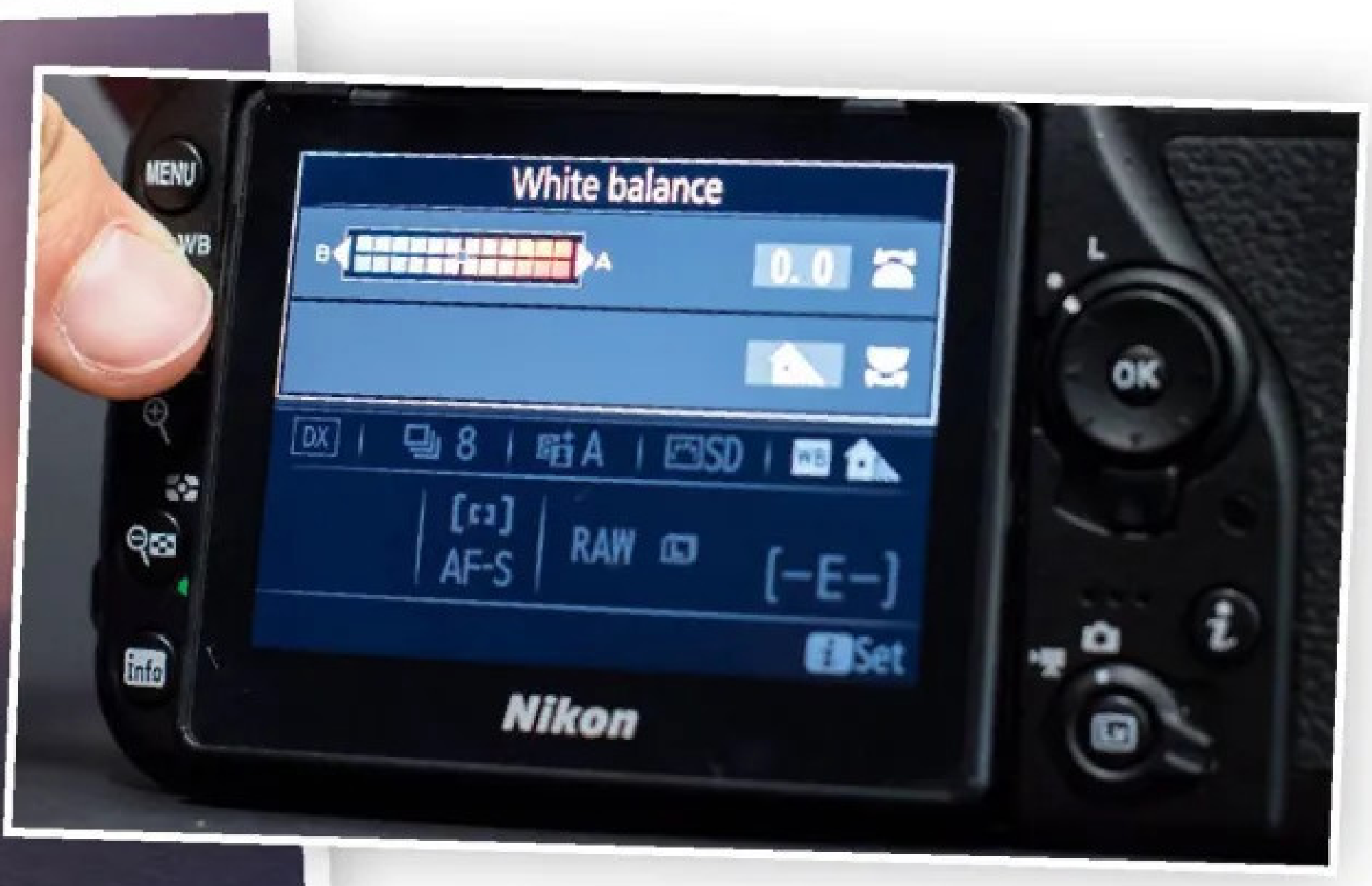
Sunset

Late evening light leans toward pleasingly warm colour casts of orange and red

---

How to shoot a sunrise

The reward of capturing the sun rising over the horizon almost always makes up for the lack of sleep. Research carefully to check the direction of sunrise, and scout your location beforehand so you can set up a good composition without faff. Arrive in plenty of time, and mount your camera onto a tripod. Opt for a low ISO, an aperture of around f8-f11 and a longer shutter speed to compensate.



Morning light is cooler in tone, so you might want to set the white balance to Shade

Be patient. A passing cloud can be enough to soften the light hitting the landscape

Francesco Richardo

High noon

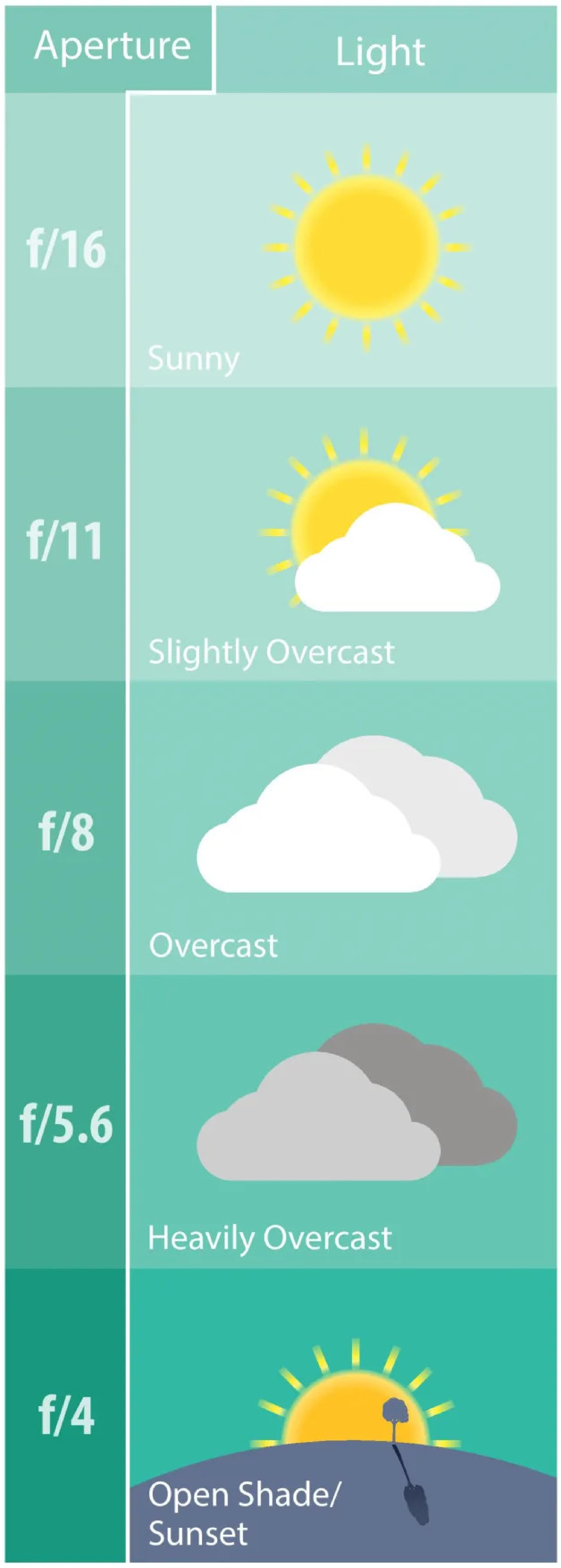
On a sunny day, shooting at noon can be a photographer's worst nightmare. With the sun high in the sky the light is hard and quite cold compared with the warm casts of sunrise and sunset, and there are no long shadows to create texture and definition, which can result in flat-looking images. Contrast can be a problem too, with deep shadows revealing little or no detail. If you have to shoot at midday, try ditching the wide-angle lens and zoom in on the scene with a telephoto lens. This way, you'll eliminate the large amount of contrast that's evident in broader shots, and so give the viewer's eye something to focus on.

In the shade

If the midday sun is too high for your DSLR to handle, move to a spot of shade. This could be under a palm tree (if you're lucky!) or building. Try not to worry about how ridiculous you might look crouching down in bushes. Shaded light is softer, shadows are weaker and the contrast is lower. If you're completely in the open and can't get around it, make use of your lens hood to avoid flare and glare.

The Sunny 16 rule

The Sunny 16 rule is a way to meter for a correct exposure during the middle of the day without using your Nikon's light meter. The basic idea is that, in daylight at an aperture of f16, the correct exposure can be achieved with a reciprocal shutter speed to the ISO speed you're using. For example, ISO200 would require 1/200 sec. As the conditions change, you simply alter the aperture. Use this table as a guide and try it out on your next shoot. Even the most sophisticated camera meters can be fooled in certain conditions, so this is a handy concept to keep at the back of your mind.



Aperture	Light
f/16	Sunny
f/11	Slightly Overcast
f/8	Overcast
f/5.6	Heavily Overcast
f/4	Open Shade/ Sunset

Your ISO and shutter speed should be reciprocal for the correct exposure

Framing an image with summer flowers in the foreground will draw the eye into a moody scene

Francesco Richardo

5 Embrace bad weather

Too inclement to go out shooting? Change your outlook for moody results

There's no such thing as bad weather (for landscape photography, at least). Even in the rain, it's possible to capture stunning images that still have a hint of summer about them. Try to include seasonal clues in the foreground of your images, such as floral details or vegetation. Poppies and sunflowers are quintessential summer blooms which will add a bold splash of colour. Despite its sunny disposition, the summer season also has a darker side – thunderstorms. Lightning presents dynamic photo opportunities, but only if you can capture it quickly enough. The specific camera settings needed depend on the time of day and your location, but as a general rule, set your lens to manual focus and focus it at infinity. In Bulb mode, start with an aperture of around f16 and ISO of 100. Then, keep the shutter open long enough to capture the strike!

Shootin' in the rain

When you get caught up in a rainstorm, start shooting immediately after the rain stops. As the sun emerges and peeks through darker storm clouds, you'll be presented with stunning photo opportunities. Clouds after rain are very dramatic, and the still air will give way to pristine reflections and glistening greenery. In torrential weather, though, don't get carried away and damage your kit in the process. Many camera bags come with a waterproof cover, so use them if it really starts to pour. You can protect your lenses to a certain degree with a lens hood, but it's worth investing in a basic rain cover so that you can carry on shooting.

Dress yourself – and your camera – for the weather

Francesco Richardo

6

Hit the coast

Go beyond traditional beach images next time you're beside the seaside

For many of us, summer days remind us of childhoods spent roaming the beach under a hot sky. A wide-angle lens is the go-to choice for photographing coastal scenes, and even a kit lens can be put to good use here. Don't feel limited to these expansive views of sand and sea, though. Why not use a telephoto lens to hone in on footprints in the sand, or boats bobbing about on a sparkling ocean? The light quality can indicate to a viewer where and when an image was shot, so you don't always have to include obvious visual clues.

70 50 35 24 18
Nikon
DX
AF-S NIKKOR 18-200mm 1:3.5-5.6G II ED
VR

Summer scenes to photograph

We couldn't tackle the summer season without exploring the coast, but we will try to take you beyond stereotypical seaside scenes of sandy beaches…

Waves are great fun to dive into with a camera (inside a waterproof housing, of course!)

Francesco Richardo

Coastal fishing villages perched on the edge of the water have a quaint, summery charm

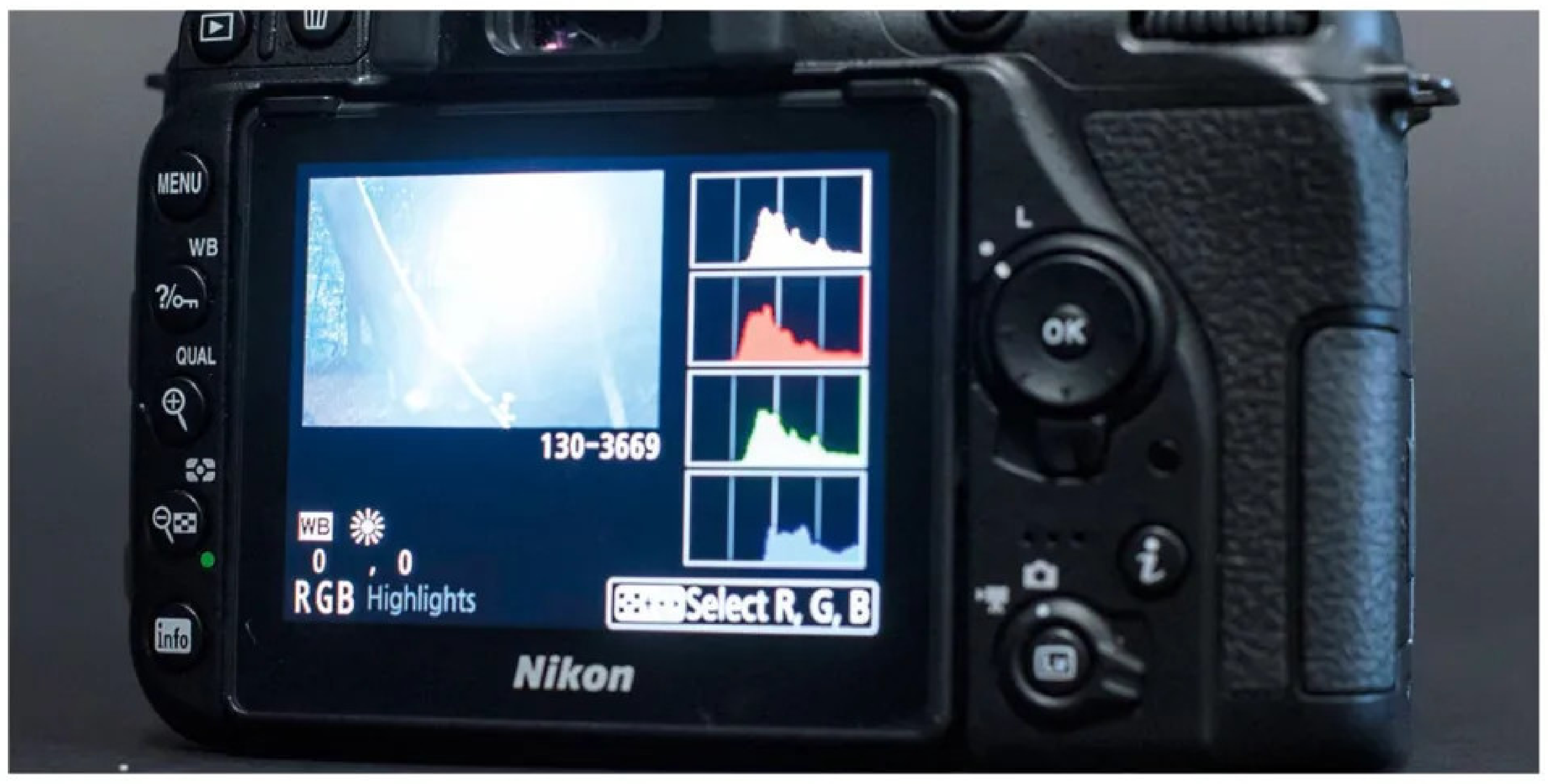
Piers and groynes make striking subjects. Try a central composition for a minimalist result

Wider scenes, with the sea in the background, can look punchy when shot with a polariser

7 Nail your exposure

Heed these hints and tips to really get the most from tricky lighting situations

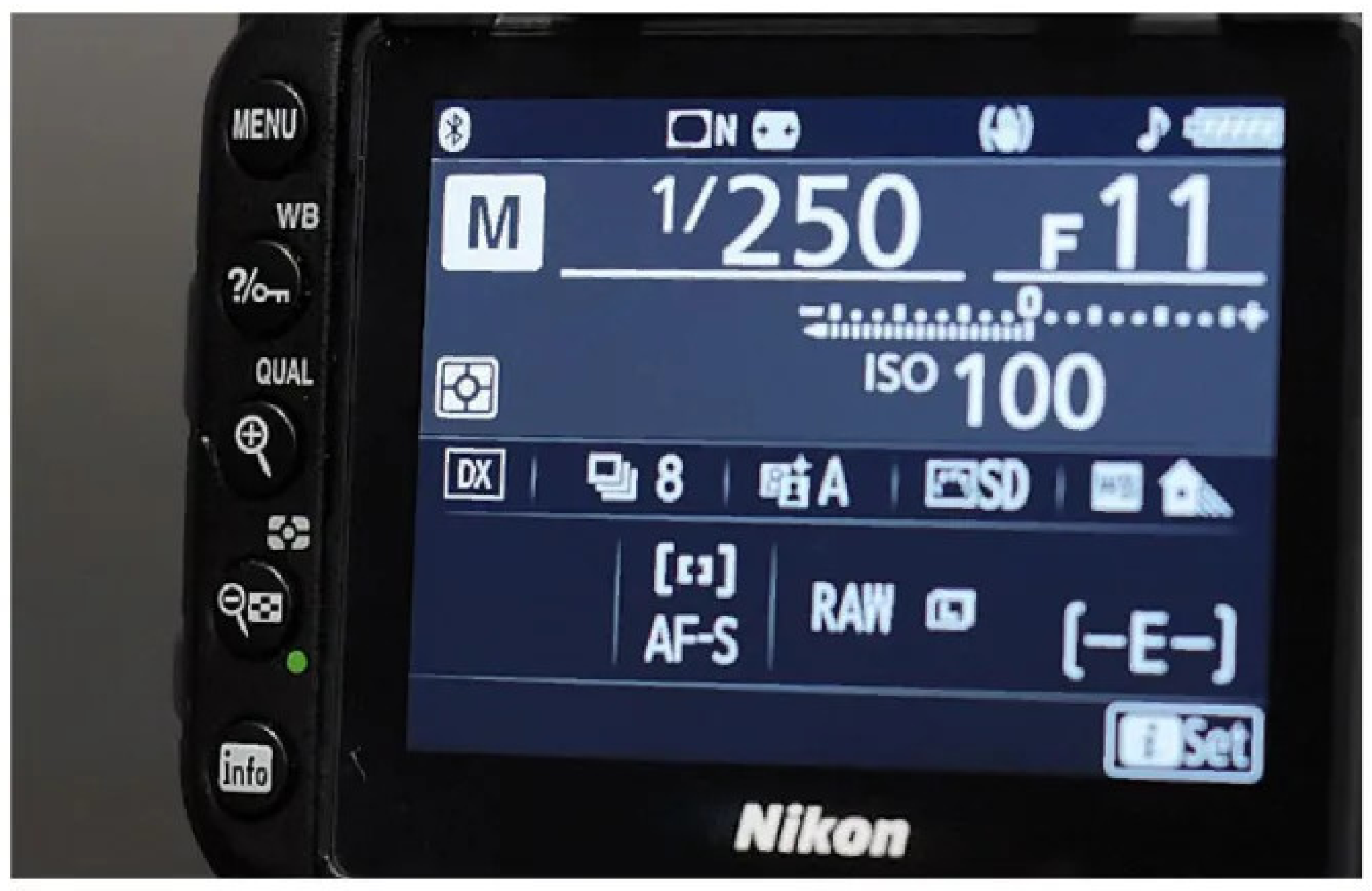
It would seem as if everything is on your side in summer: fair weather, clear skies and long days. However, as soon as the sun does rise, it rises high and fast in the sky. The morning shadows quickly retreat, and this diminishes any sense of depth in the landscape. At the same time, contrast can be a big challenge for accurate exposure. There's nothing inherently wrong with photographing in high-contrast conditions, but they can be very hard to meter for. In Matrix metering mode your Nikon's meter will measure the light intensity across the whole of the image frame, then come up with an average value. In bright, contrasty conditions, this often renders your actual subject too bright or dark. If you switch to Spot metering mode, bear in mind that you'll need to be able to judge tones accurately to get the most from them. Follow the three step tutorial, below, to take back control of the way you expose such scenes.


MENU
WB
QUAL
130-3669
RGB Highlights
Select R, G, B
OK
Nikon

Francesco Richardo

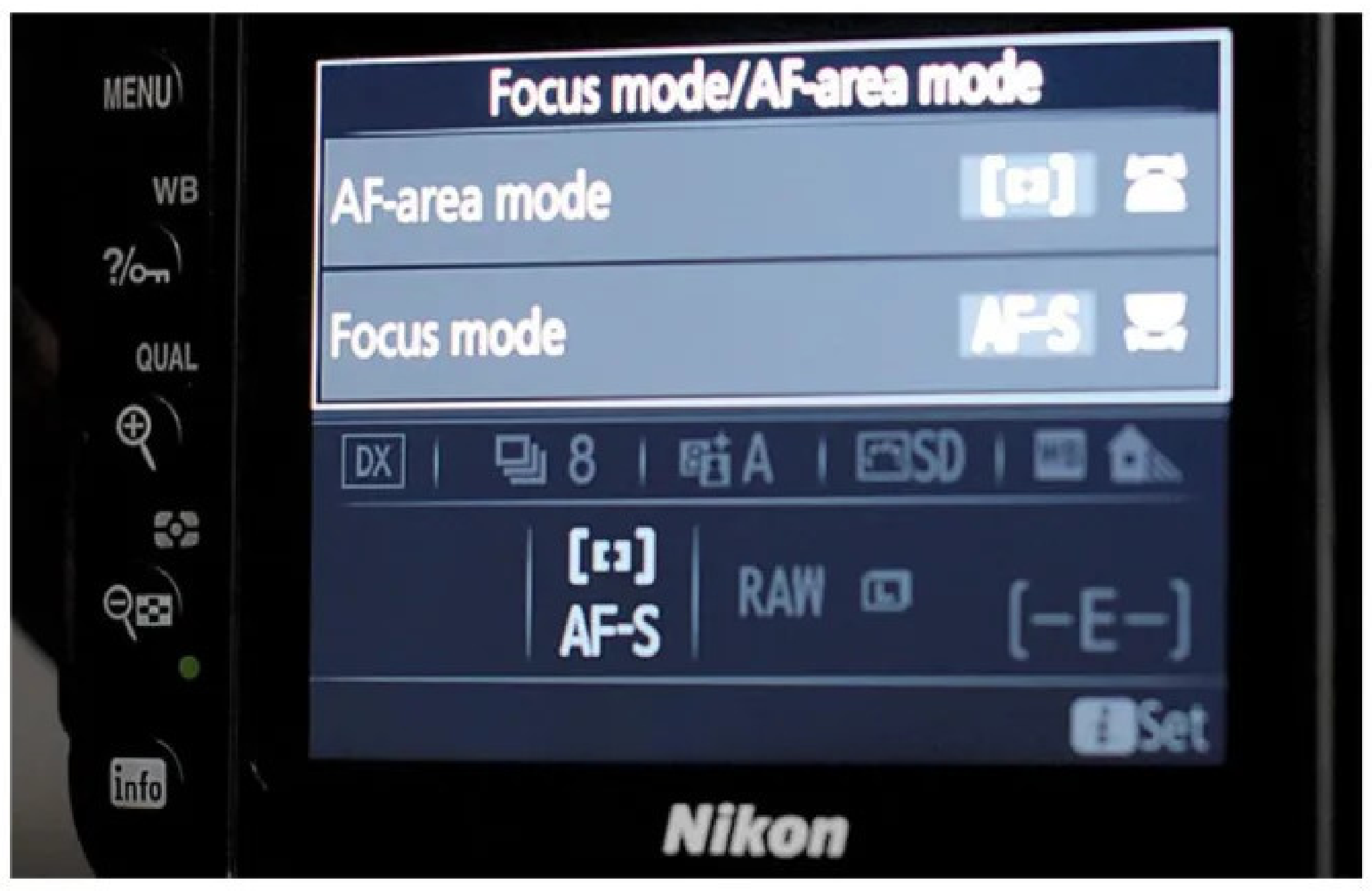
High-contrast scenes

Try taking several readings then shoot with the average


MENU
WB
QUAL
M
1/250
F11
ISO 100
DX
8
A
SD
AF-S
RAW
[-E-]
Set
Nikon

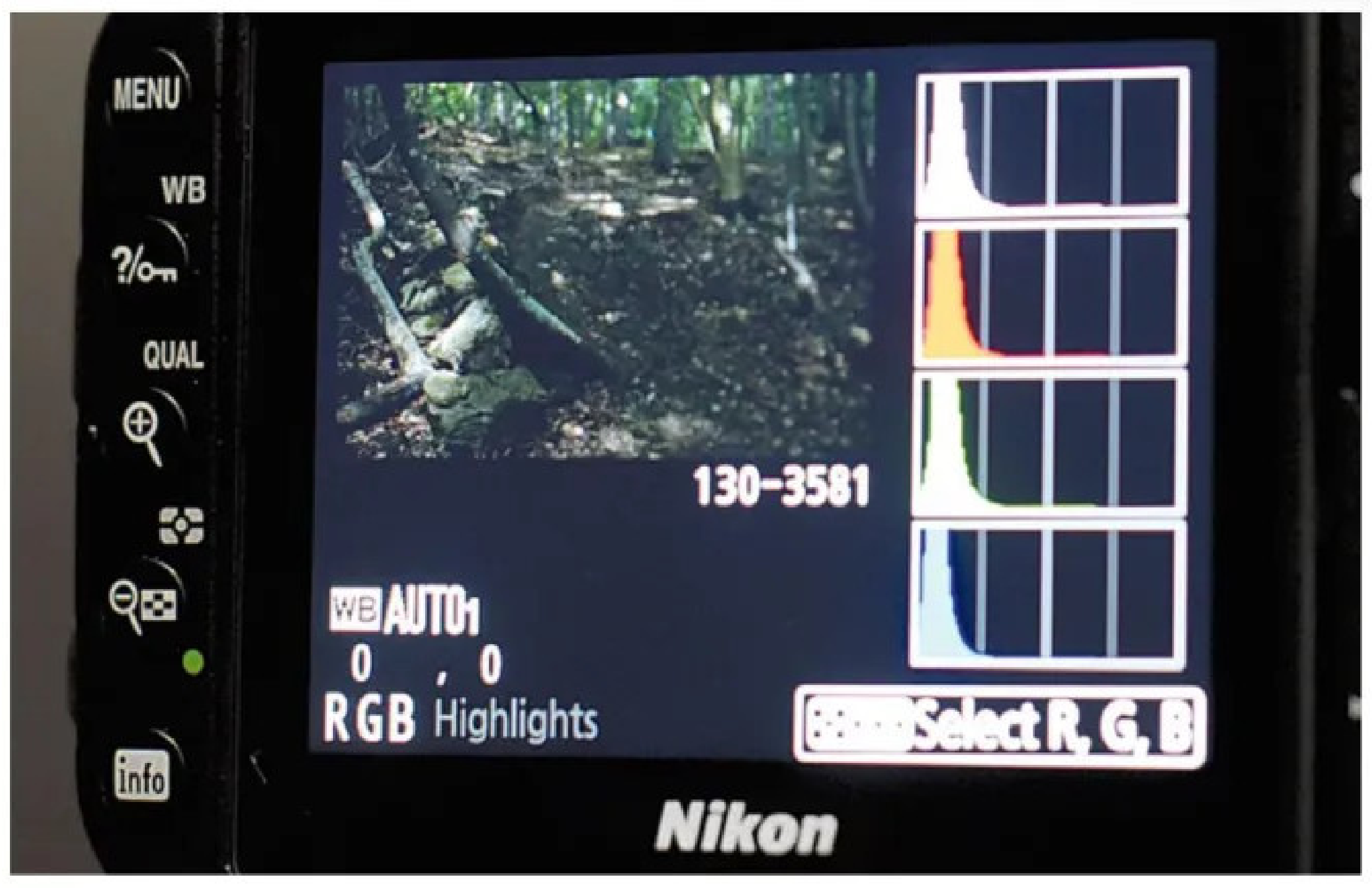
01 Set Manual mode

Switch to Manual mode for full control of your exposure and Spot metering. Dial in your desired aperture and ISO. These values will depend on the scene, but start at around f11 and ISO100.


MENU
WB
QUAL
Focus mode/AF-area mode
AF-area mode
Focus mode
AF-S
DX
8
A
SD
AF-S
RAW
[-E-]
Set
Nikon

02 Take two readings

Set the AF point manually, then position the focus point over an area of shadow. Note the recommended shutter speed. Repeat this step to meter the brightest part of the scene.


MENU
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QUAL
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RGB Highlights
Select R, G, B
Nikon

03 Find the average

Find the middle shutter speed between the two readings. For example, between 1/160 sec and 1/640 sec would be 1/320 sec. Shoot at this shutter speed and then review the image histogram.

High-contrast scenes can play havoc with your metering when using Matrix mode

Avoid dust spots

Dust spots become very obvious when you've stopped down to narrow apertures (higher f-numbers) and are shooting a bright sky. Make sure that your lens, filters and sensor are clean. This way you won't spend hours removing dust spots in post-processing.

Nikon
Nikon
AF-S DX NIKKOR

8 Use filters

Know your ND from your UV? Here's our quick guide to using filters

High-quality filters are a must-have accessory for improving your landscapes in-camera. When used properly, a filter not only enhances scenes, but saves you time editing your shots later, and is also useful for protecting your expensive lens's front element from accidental damage. We've listed the most important filters for photographing summer landscapes below, explaining the conditions where you'd want to use each one. Companies like Lee Filters (www.leefilters.com) offer premium options – at premium prices – but choose a filter system that matches your budget

Ultraviolet filter

A UV filter is often overlooked, but as ultraviolet radiation can create haziness in photographs ,it's a handy accessory to keep on your lens in summer. UV radiation increases with altitude, so use a filter if you're going to be climbing. A UV filter also protects the front of a lens – it's a lot cheaper to replace a filter than a scratched front lens element…

Neutral-density filter

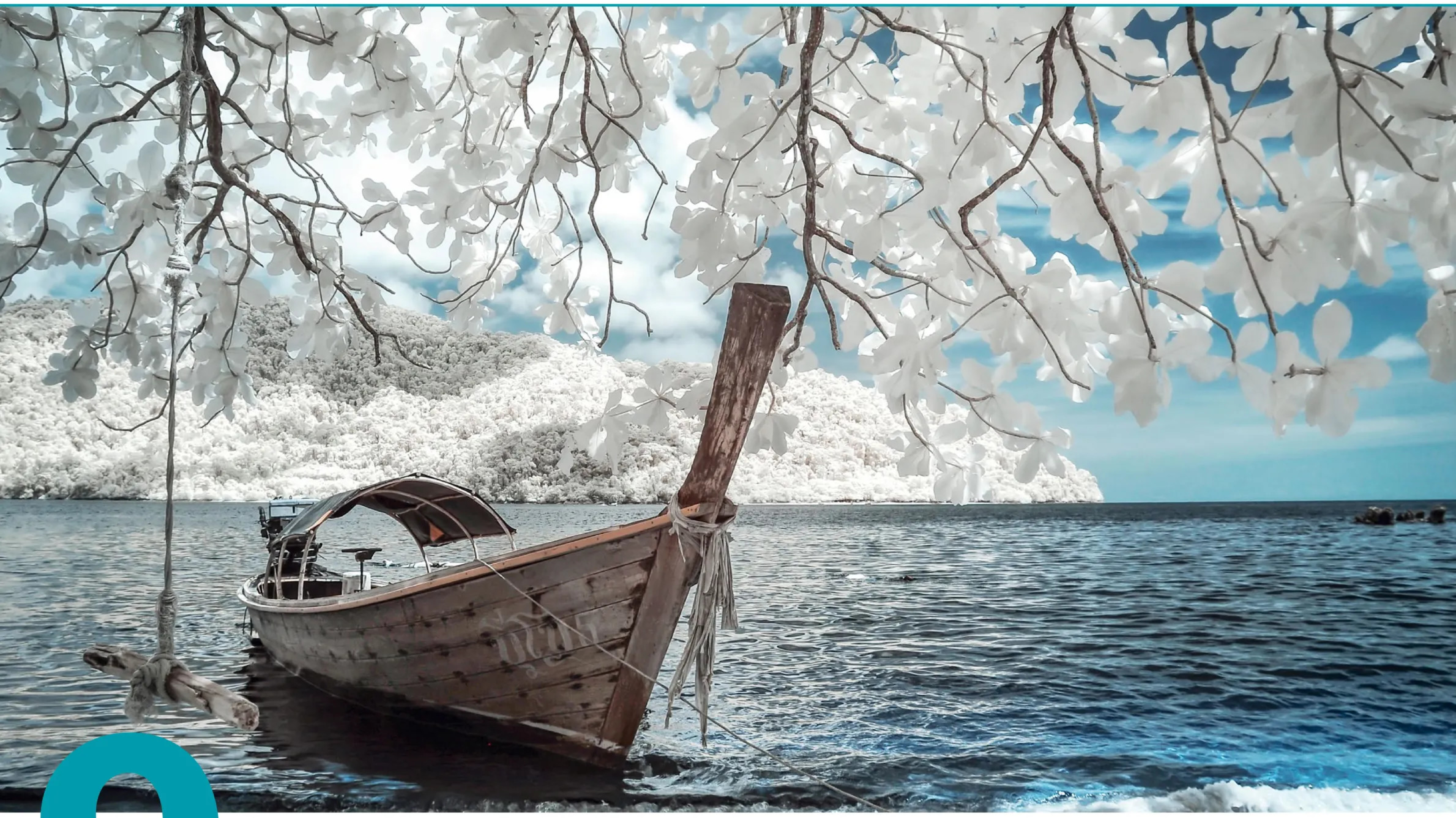
Neutral-density filters, such as the Lee Big Stopper, reduce the amount of light entering the lens across the whole frame. This means you can use much slower shutter speeds than normal. Attach a 10-stop ND filter if you want to use a wide aperture, or to set a really long exposure for creative effect on a bright summer's day, such as when blurring moving water.

Graduated neutral density filter

Graduated neutral density filters have a dark or grey coating at the top, and blend to clear at the bottom. By placing the dark part over the sky, you can bring its exposure value closer to that of the landscape below. This filter therefore becomes very useful when you're shooting very bright skies against a darker foreground, and you need to balance the two.

Circular polariser

A polariser is highly effective on sunny days, adding a rich and velvety quality to blue skies. Once attached to your lens, simply rotate the front section to increase or decrease the effect. A polarizer will also boost contrast on damp, overcast days. On a shoot, you can judge the strength of the effect by rotating the filter slowly as you look through the viewfinder.



mrtotophotos

9

Be different

Take an alternative approach to your seasonal image-making

While a warming summer landscape is pleasing to the eye, there's always scope to try something more dynamic. We've already touched on using a telephoto lens to compress the perspective of a landscape, but bear in mind how your shooting angle can also affect the result. Crouching down low in foliage or flowers gives a much more intimate feel. So, too, does widening the aperture and throwing the foreground or background out of focus. For a really drastic look, give infrared a go (above). Blue skies and fluffy white clouds look great with this effect, as the harsh and contrasting sunlight creates a surreal, bleached look.

Try infrared

The easiest and cheapest way to get started is to attach an infrared filter to the front of your lens. You won't be able to see anything through the viewfinder once it's screwed on, so it's best to compose the scene first. Where possible, look to include plenty of greenery in the frame.

POLA · FRANCE

Get abstract

Don't be scared to fill the frame with land and ignore the sky completely. With a longer lens, use repetitive lines or patterns to add interest, and to lead the eye into the composition.

Francesco Richardo

Include people

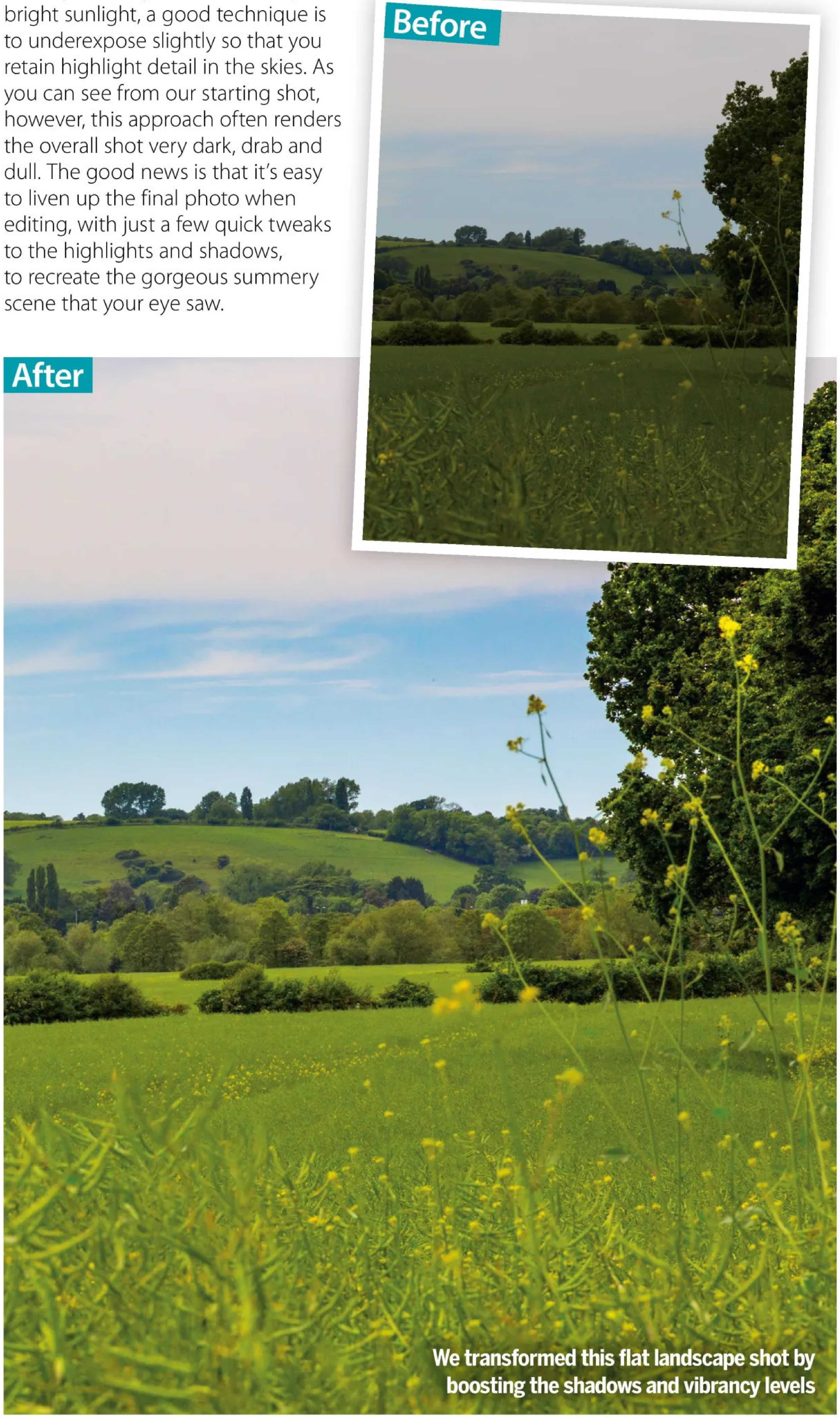
Photographing figures in the landscape can help to add depth and interest. In wide, expansive scenes, it can also add a much-needed sense of scale to your image.

Francesco Richardo

10 Edit to perfection

Follow these quick tweaks to polish off your shots

When you find yourself shooting in bright sunlight, a good technique is to underexpose slightly so that you retain highlight detail in the skies. As you can see from our starting shot, however, this approach often renders the overall shot very dark, drab and dull. The good news is that it's easy to liven up the final photo when editing, with just a few quick tweaks to the highlights and shadows, to recreate the gorgeous summery scene that your eye saw.

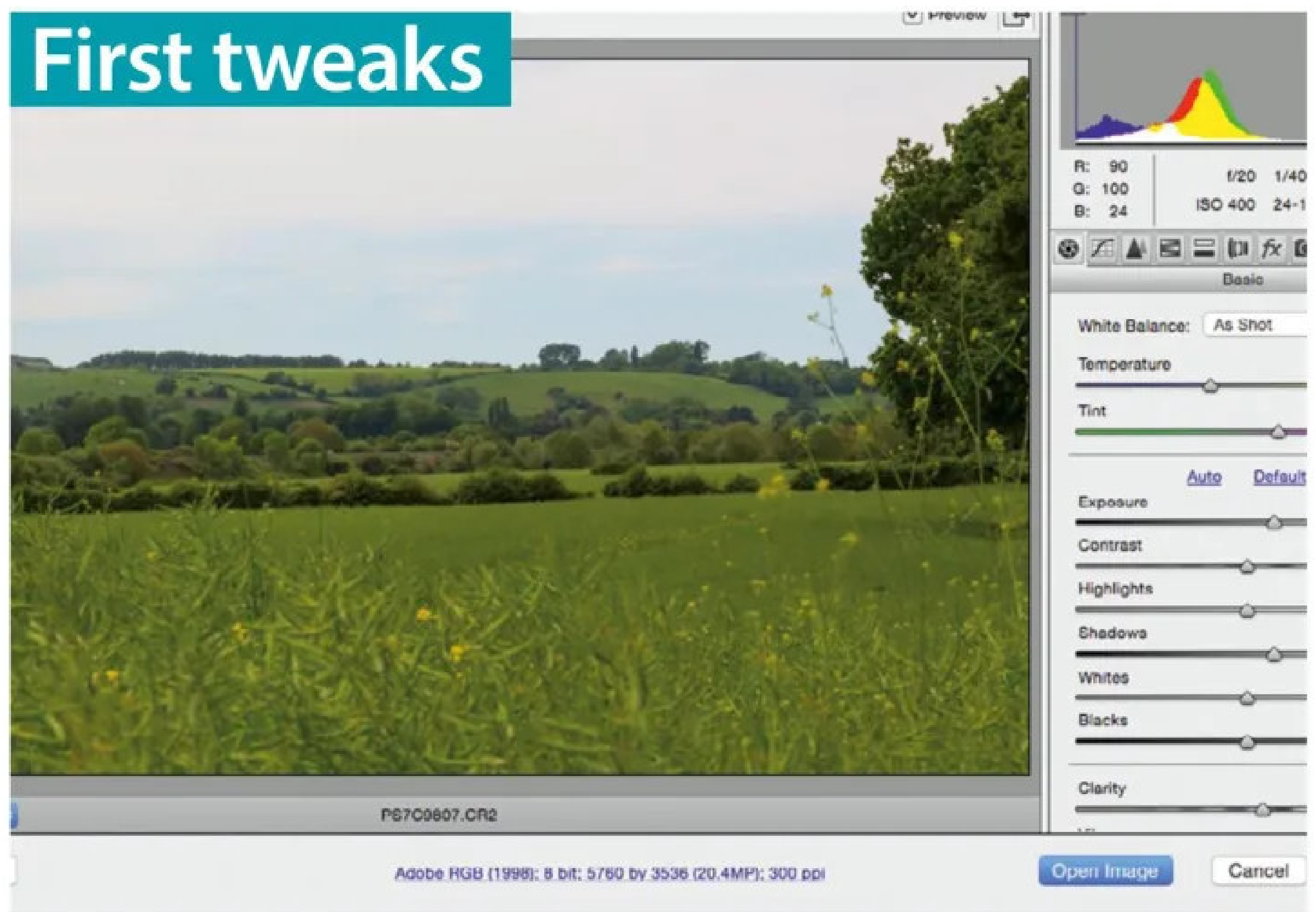

Before
After

We transformed this flat landscape shot by boosting the shadows and vibrancy levels

Camera Raw essentials

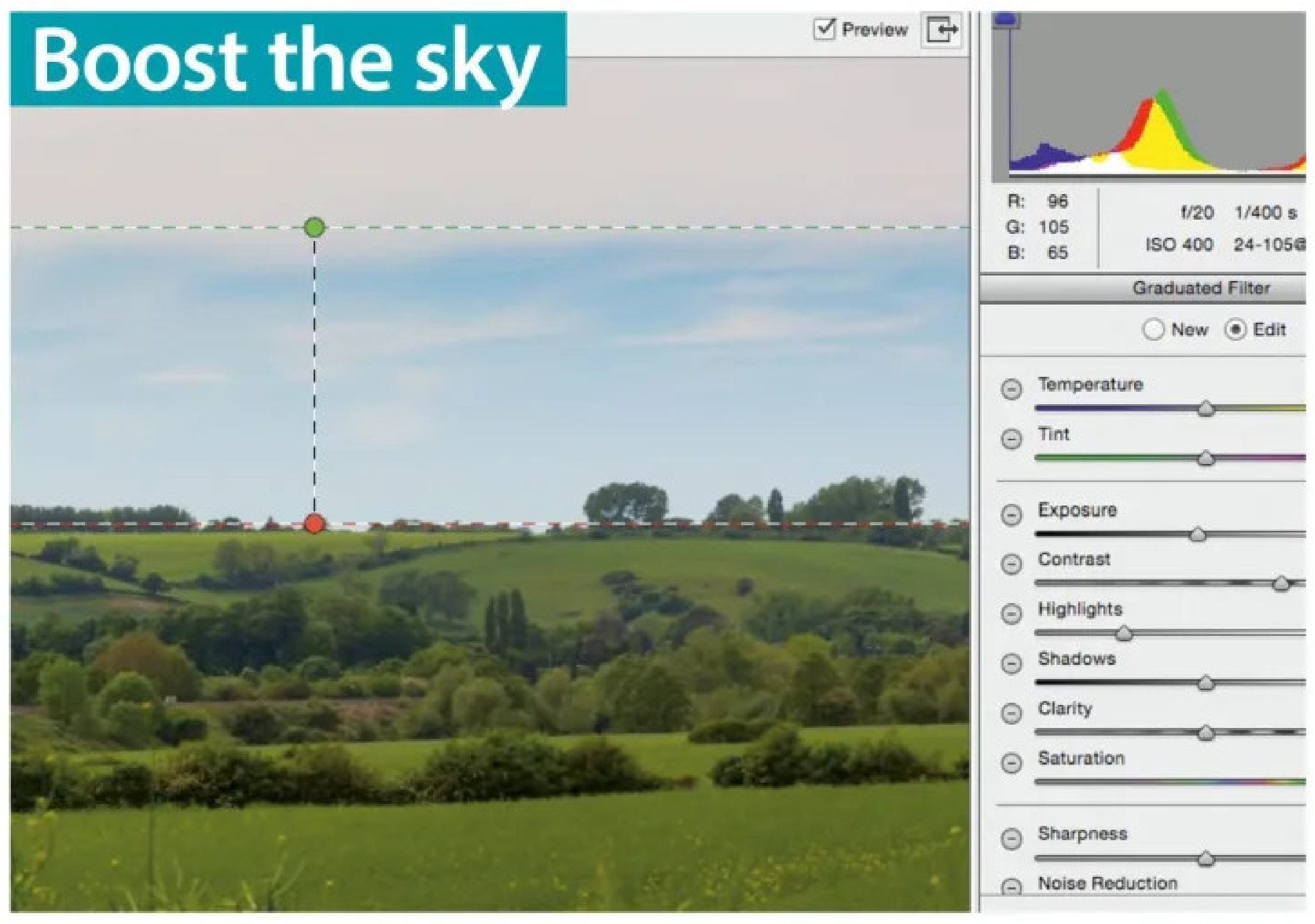
Shooting your landscapes in Raw mode gives you a fully uncompressed file or 'digital negative' to work with when it comes to the editing stage, and any changes you make can be tweaked again later. Photoshop's Adobe Camera Raw plug-in is a good place to start…

First tweaks


White Balance: As Shot
Temperature
Tint
Auto
Default
Exposure
Contrast
Highlights
Shadows
Whites
Blacks
Clarity
Open Image
Cancel

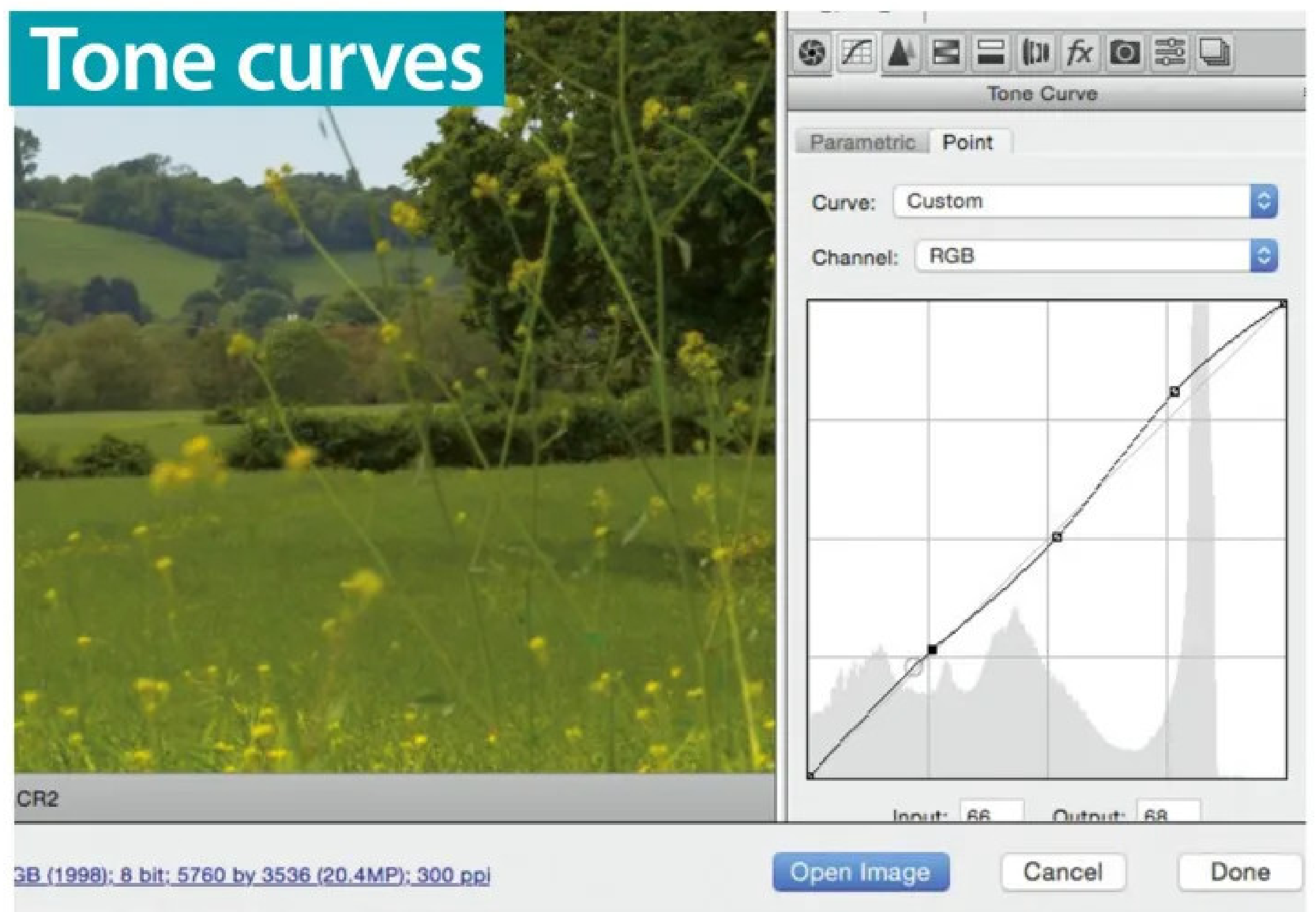
Open the image up in Adobe Camera Raw and begin with general changes. To start with, we brightened up the exposure and shadows.

Boost the sky


Preview
f/20 1/400 s
ISO 400
Graduated Filter
New
Edit
Temperature
Tint
Exposure
Contrast
Highlights
Shadows
Clarity
Saturation
Sharpness
Noise Reduction

Make use of gradient filters to boost selected portions of the image. Here, a filter was dragged across the sky to add saturation.

Tone curves


Tone Curve
Parametric
Point
Curve: Custom
Channel: RGB
Open Image
Cancel
Done

Use a Tone Curve and add points for a more targeted edit. We lightened the highlights and shadows again slightly to liven up our image.

37 top tips for portraits

Discover 37 ways to hone your skills, learn new editing tricks and master techniques guaranteed to improve your people photos

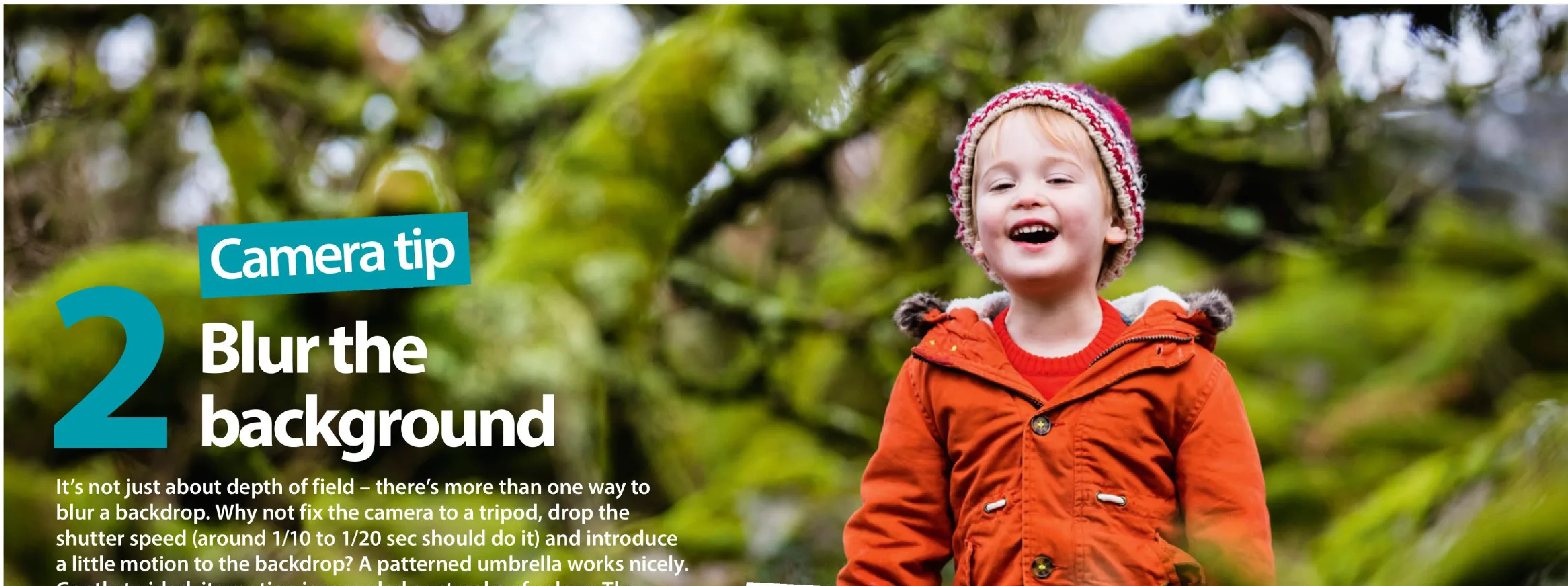
Portraiture offers a real test of a photographer's technical skill, creativity and charisma that sets it apart from other genres of photography. There's nothing quite like coming away from a portrait shoot knowing you've nailed every aspect of the challenge – the camera settings, the lighting, the composition, and the subject's character. When everything comes together in one harmonious frame, the results can be spectacular. However, anyone who's tried their hand at portraiture has also probably experienced the crushing disappointment that comes when grumpy subjects, technical slip-ups or misjudged lighting spoil a shot. Both technically and artistically, there's always plenty to think about on a portrait shoot. And then there's the other X factor: the connection between the subject and the photographer. But if you can head into a shoot armed with a few ideas, some stock settings, and maybe a go-to lighting set-up, then the multitasking nature of portraiture suddenly gets a lot easier. Over the next few s you'll find a whole heap of ideas, tips, lighting advice and even editing suggestions that are guaranteed to produce great portraits. How do we know? Because we've been honing these ideas through hundreds of shoots of our own.

1

Composition tip

Get the low-down

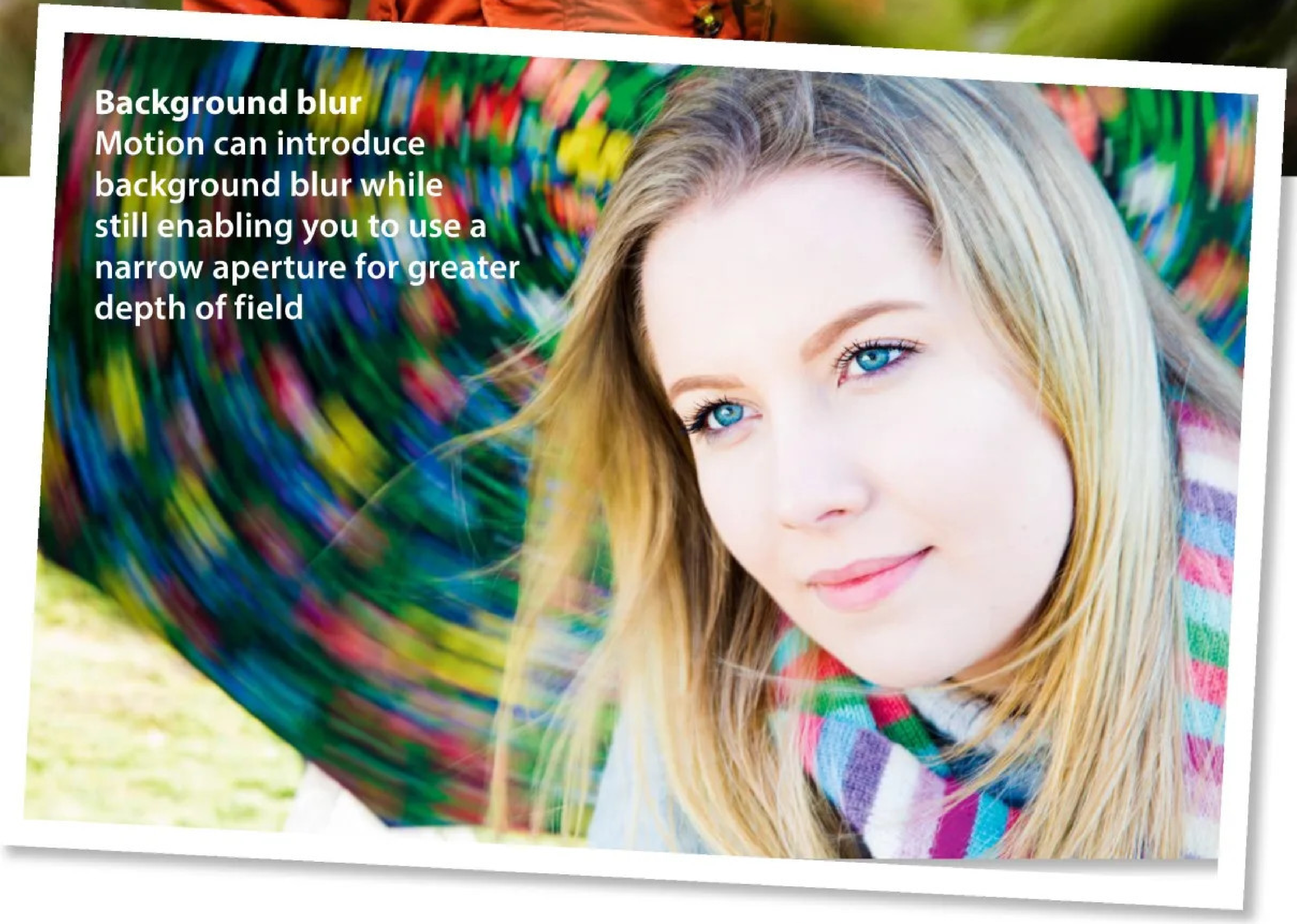
Crouching or even lying on the ground can often give you a more interesting camera angle, and when shooting kids it takes you down to their level. In scenes like this one amid the bluebells, it can also help to create a sense of depth, as it means you can blur out both the background details and the foreground. Using a long focal length in combination with a wide aperture will emphasise the blur.



Camera tip

2 Blur the background

It's not just about depth of field – there's more than one way to blur a backdrop. Why not fix the camera to a tripod, drop the shutter speed (around 1/10 to 1/20 sec should do it) and introduce a little motion to the backdrop? A patterned umbrella works nicely. Gently twirled, its motion is recorded as streaks of colour. The photo in the inset was shot at 1/10 sec, f/16, ISO100.

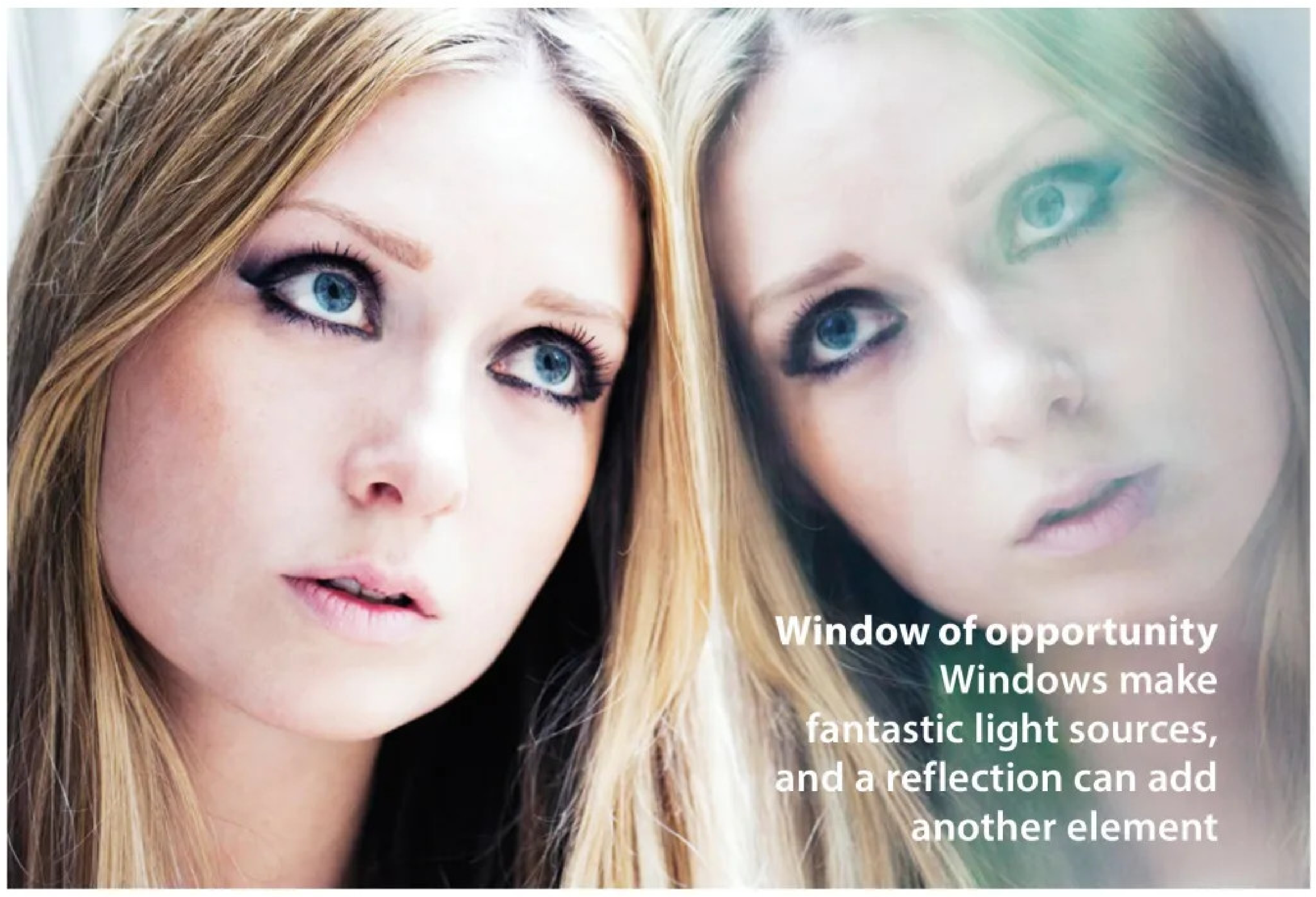


Background blur
Motion can introduce background blur while still enabling you to use a narrow aperture for greater depth of field

Posing tip

3 Bend the limbs

There are lots of rules about posing: stand slightly side-on, create an S-shape, tilt the head slightly, drop a shoulder, cross the legs, and so on. In fact, if you try to follow them all your portrait shoot can quickly start to resemble a game of Twister. But one useful tip that's easy to remember is this: if it bends, bend it. So arms, legs, fingers, neck, hips, shoulders… a slight bend will invariably lead to a more interesting pose.



Window of opportunity
Windows make fantastic light sources, and a reflection can add another element

Lighting tip

4 Window of opportunity

Your first thought as a portrait photographer should always be about the light: where is it coming from? Is it flattering? How does it make the subject look? Is there anything I can do to improve it? What is the light like in the background?

A reliable source of soft, flattering light is the humble window. Shoot side-on for directional light, and if you want to lift the shadows, hold a reflector or white board up to the other side of your subject's face to bounce light back into the shadows.

5 Camera tip

Shoot it shallow

When it comes to shooting any kind of portrait, the golden rule is to make your subject stand out. There are lots of ways to do this, but one of the most effective is to blur the background. To do this via camera settings, you need to set your Nikon up for a shallow depth of field. Open the lens's aperture as wide as it'll go (to the lowest f-number) for minimum depth of field. Another factor is distance: the further things are from your point of focus, the more blurred they'll be, so if you want your background to be more blurry, move both the camera and the subject further away from it.

Here's a simple set-up that works perfectly for portraits, and that will enable you to forget about settings and focus on getting the shot: first set your Nikon to manual mode; next set your ISO to Auto; then set your shutter speed to 1/250 sec. Finally, set your aperture to a wide f-number, like f4 (or as wide as it'll go).

6 Posing tip

Interaction

When shooting families or couples, encourage your subjects to interact with one another. This can lead to great, unforced expressions and emphasises the closeness between them. For couples, ask one of them to whisper something in the other's ear. For kids, get them to say funny words or phrases to each other. And remember to watch out for those wonderful moments when they think you've stopped shooting, as it often results in the most relaxed, natural-looking poses.

7 Composition tip

Sense of scale

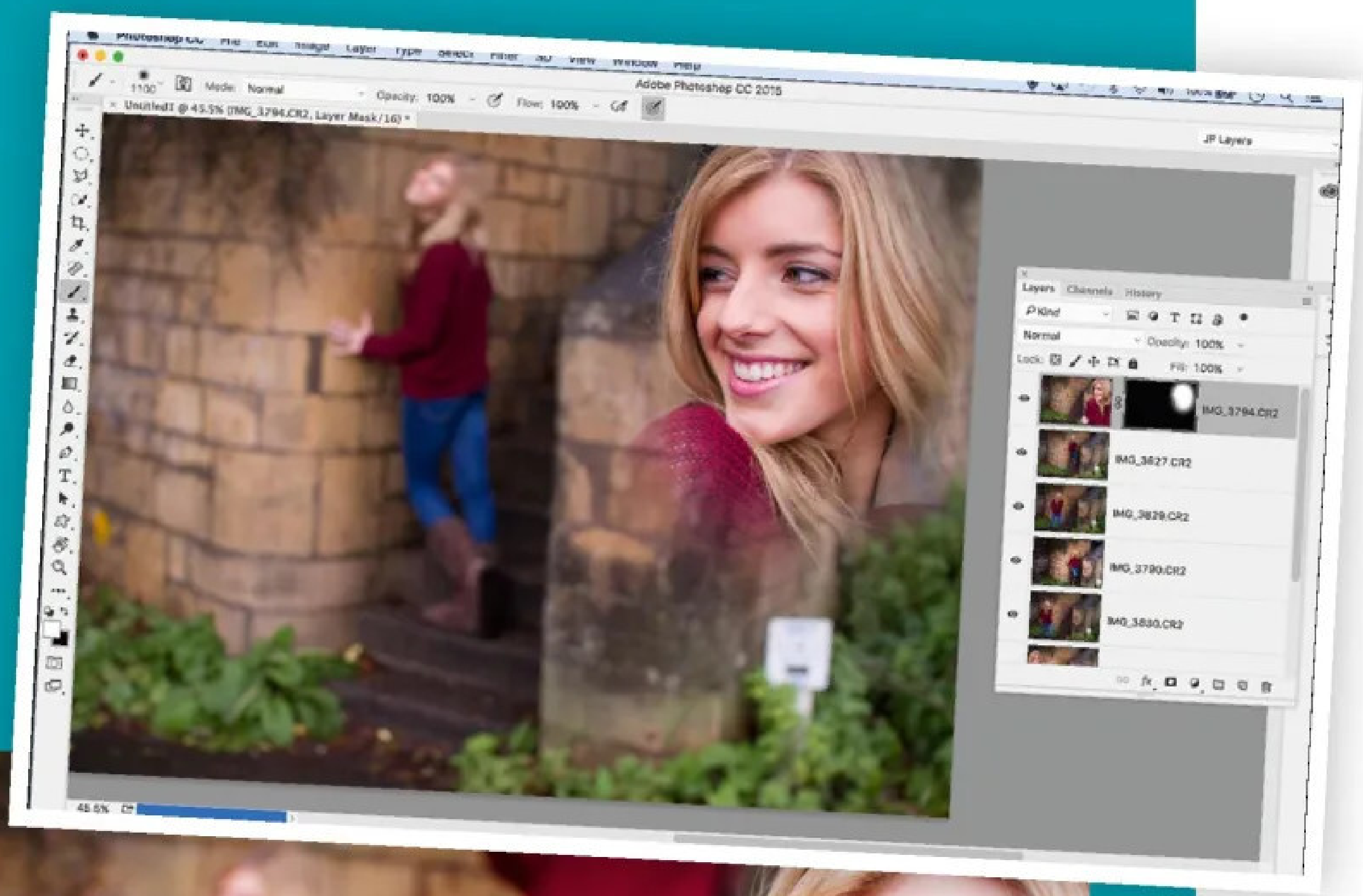
People can make for a useful focal point in your landscape photography, especially in simple scenes. So when you're next out shooting landscapes, don't just wait for walkers to exit the frame – include them to give your images a sense of scale.

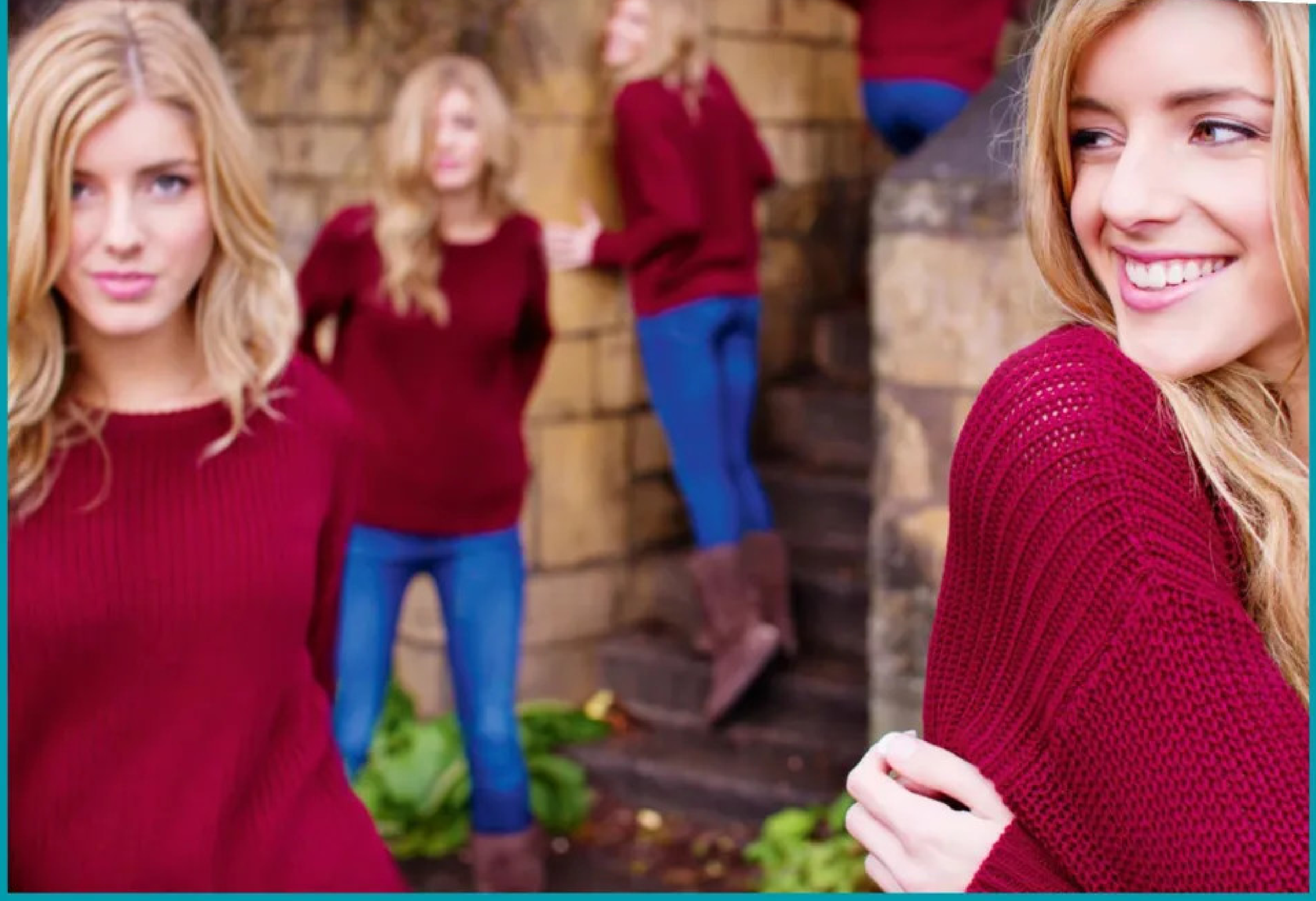
Interaction
Getting couples or groups to interact often leads to more natural poses

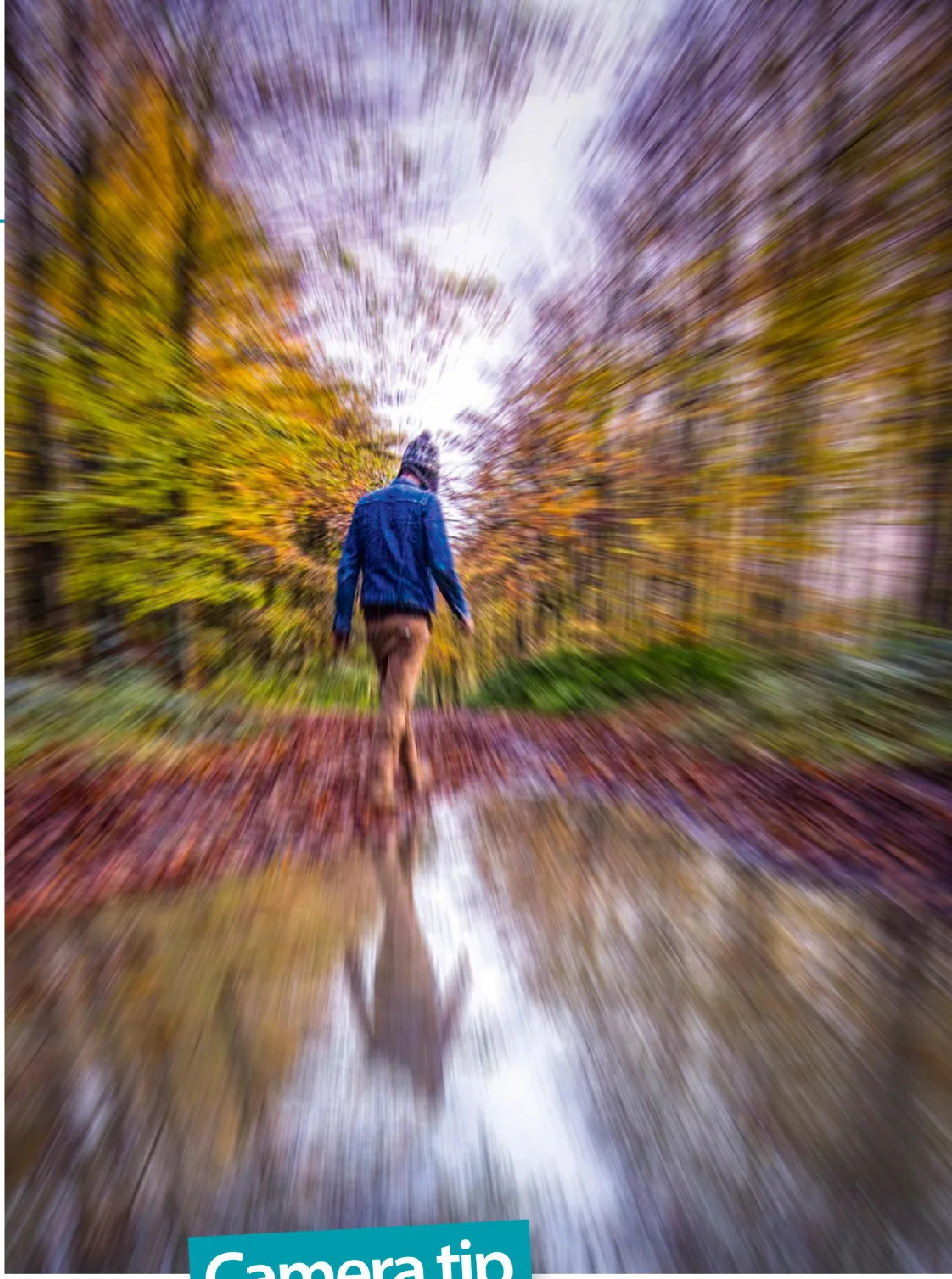
8 Editing tip

Create clones

Multiplicity portraits are easy to create, even if you're a Photoshop novice, as long as you shoot all the images you need on a tripod. Set your camera up on a tripod and capture your subject in various poses spread around the frame. Then, in Photoshop, copy and paste the images on top of one another (CC users can go to File>Scripts>Load Files into Stack). Next go to Layer>Layer Mask>Hide All, then paint with white to reveal the hidden pose. Select the next layer and repeat until the images are all combined.







Camera tip

9 Zoom-blur a portrait

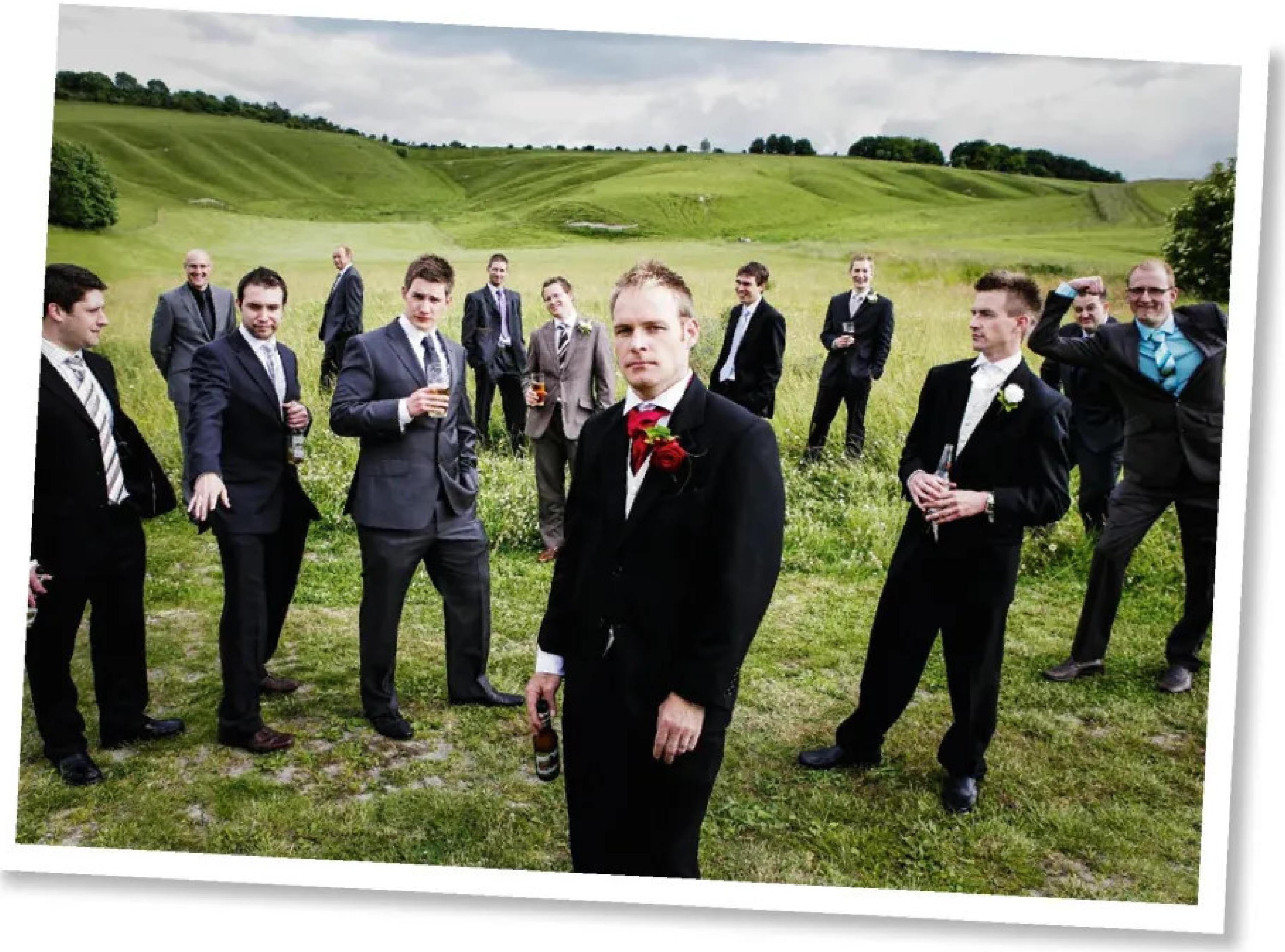
A zoom blur effect can create a sense of movement in your portraits, as well as drawing the eye straight to the centre of the scene. Using a zoom lens, twist the zoom barrel during the exposure to create streaks of blur that angle towards the centre of the frame. Set up on a tripod, frame your subject centrally and use a shutter speed of around 1/10 sec. If you want to cheat, you can use Photoshop's Radial Blur filter (Filter>Blur>Radial Blur) set to Zoom for a similar effect on any image you like!

10 Posing tip

Jump!

If you want unpredictable poses, great expressions and a sense of fun in your portraits, then ask your subject(s) to jump. Get down low to emphasise the height of the jump, and use a fast shutter speed to capture the action. Even if the shot doesn't work, it can be a great way to loosen up subjects at the start of a shoot, and it works especially well with kids.

HAVE A NICE DAY!



11 Posing tip

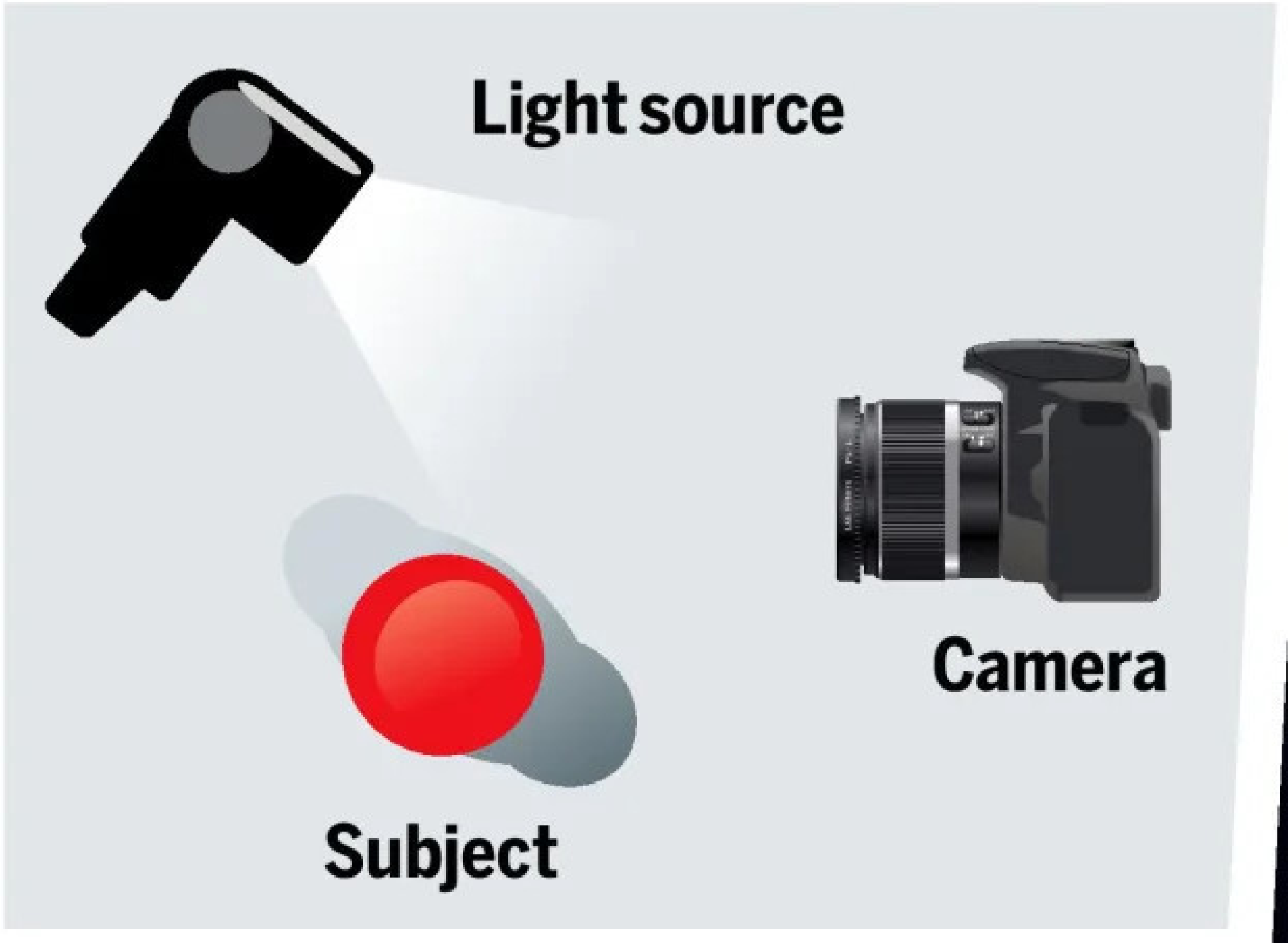
Plan group shots

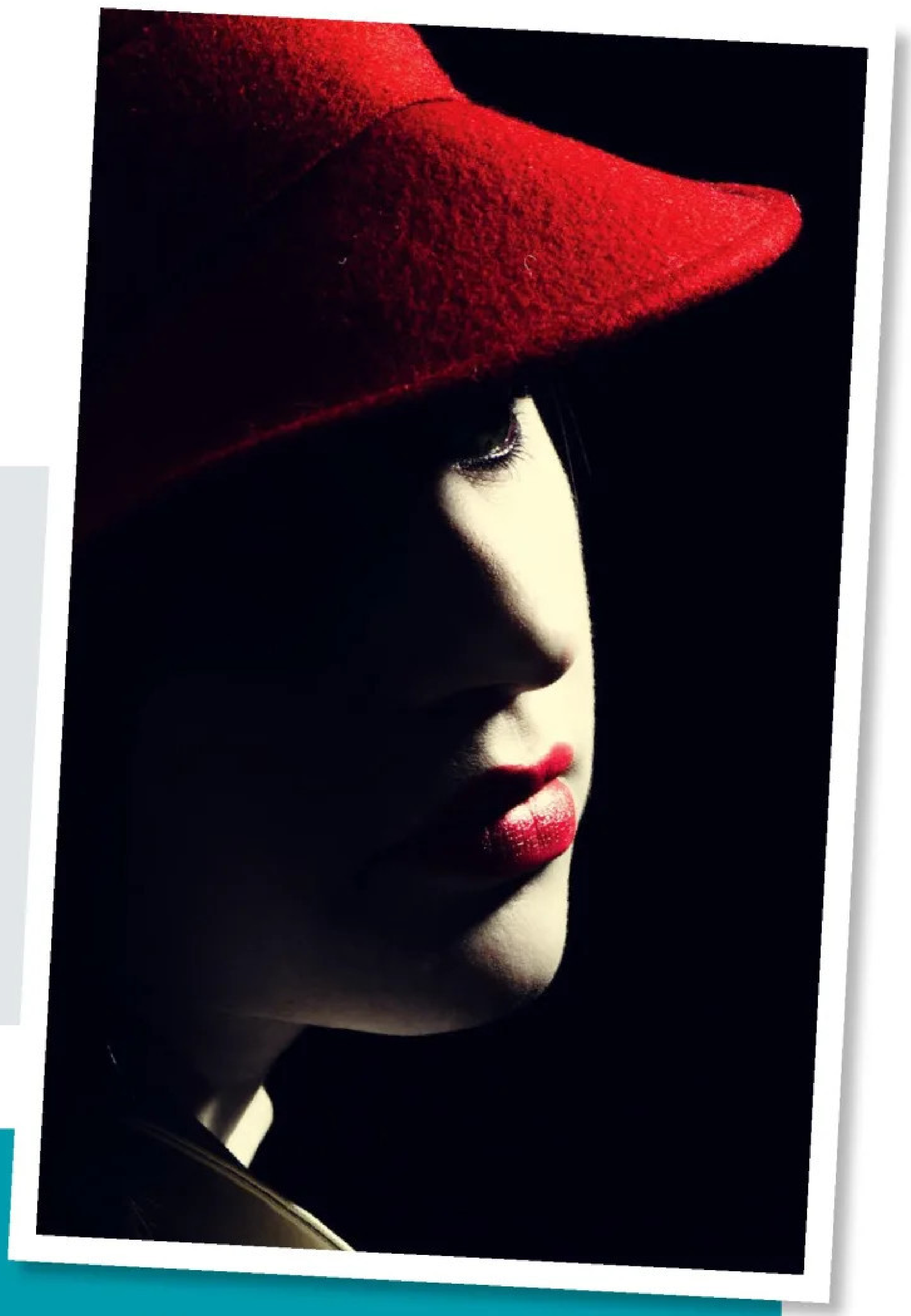
When it comes to photographing large groups, a little time spent on positioning people will lead to a much more successful shot. The key is to look for ways to mould the mass of people into a recognisable shape, like a triangle. Another option is to make the shape symmetrical – tall ones in the middle, shorties at the edges. Or you could use the environment, perhaps by sitting people on a flight of stairs, or by spacing them out so that they each occupy their own portion of the frame.

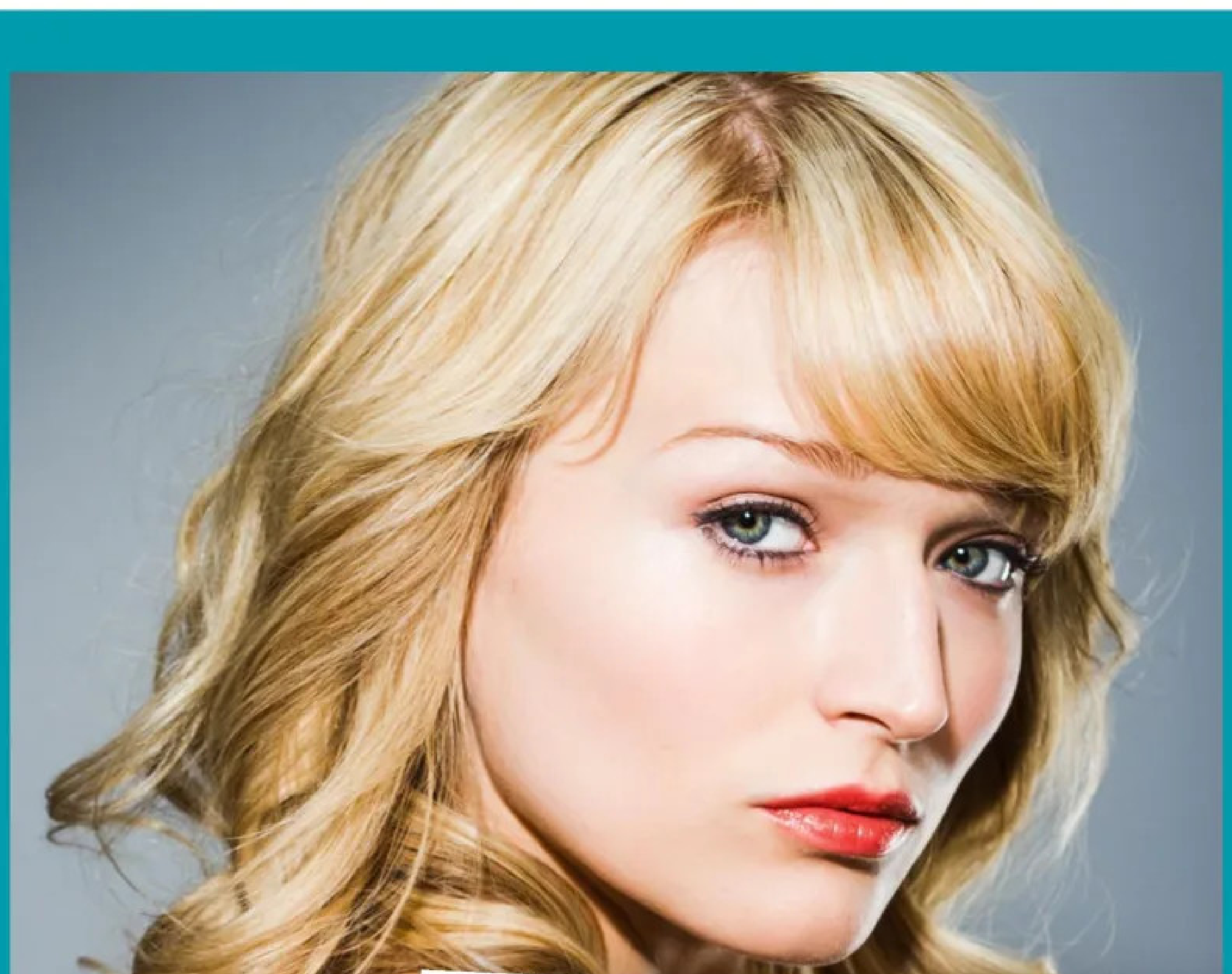
12 Lighting tip

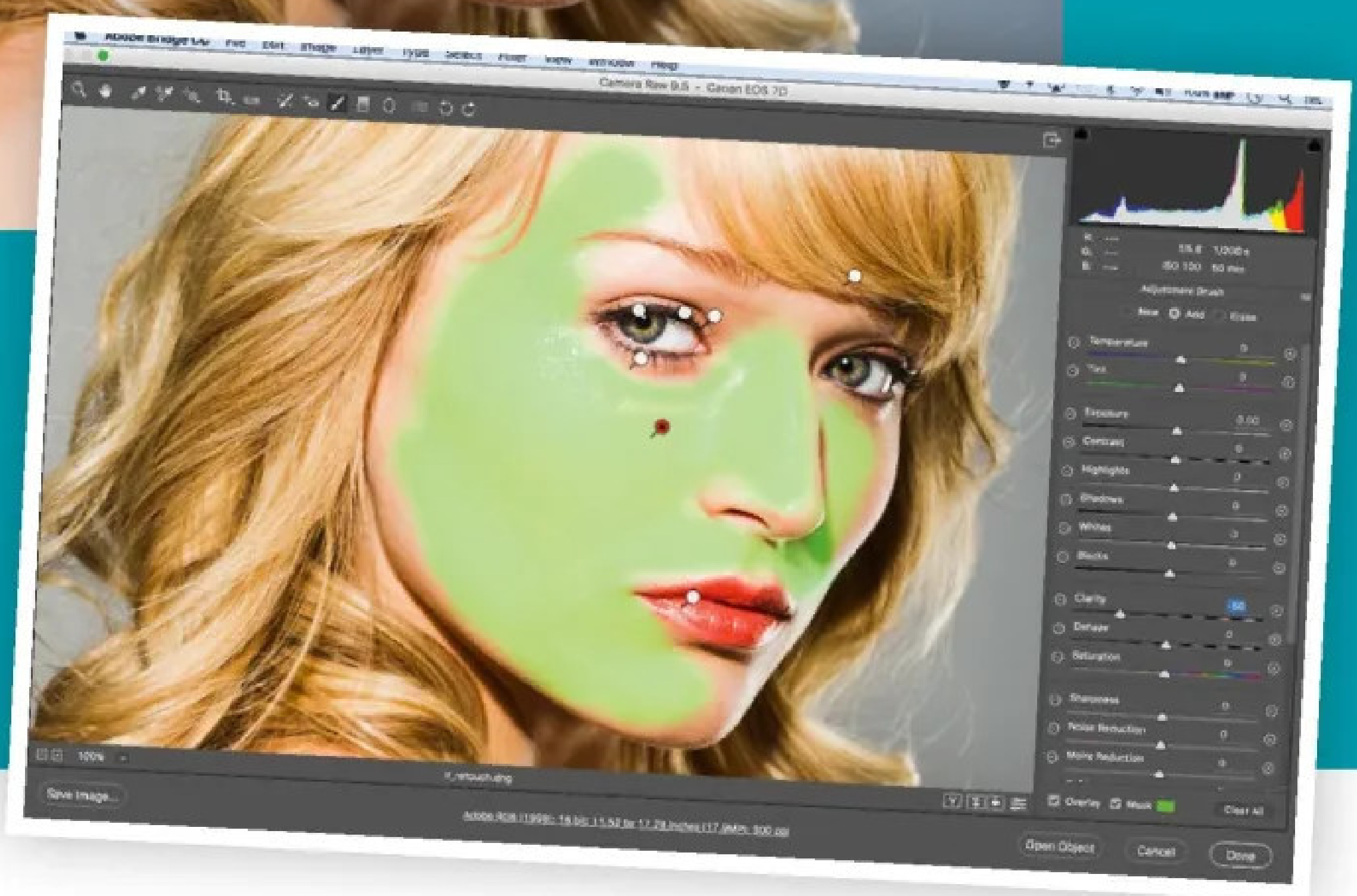
Backlight the face

Some faces look fantastic when lit from behind and to the side, especially ones with strong bone structure or features. Lighting like this highlights the edge of the face and throws the front into shadow, so it works best when the subject's face is side-on to the camera (see right). Lighting one side of a face like this is sometimes called 'short' or 'narrow' lighting, because the light falls on the narrower side of the face, that's facing away from the camera. 'Broad' lighting is where the side facing the camera is lit. Short lighting has a slimming effect. We used a flash for the shot here, but all kinds of light sources can be used, from window light to low-afternoon sunlight.









13 Editing tip

Retouch the face

Most faces will benefit from subtle retouching. The trick is to keep things natural, so don't go overboard and remove absolutely everything. A good rule of thumb is to make the subject look their best, as if they've just had a great night's sleep after a weekend spa break. So spots, blemishes and eye bags can all be softened.

Camera Raw (or the near-identical tools in Lightroom's Develop Module) offers some useful tools for this. Load the Adjustment Brush with -50 Clarity and paint over the skin to soften it slightly, without making it over-smooth and plasticky, then use the Spot Removal tool to paint over spots and marks. For eye bags, open in Photoshop, grab the Clone tool, set opacity to about 20% then sample a clean bit of cheek underneath and gradually clone over the bags.

Composition tip

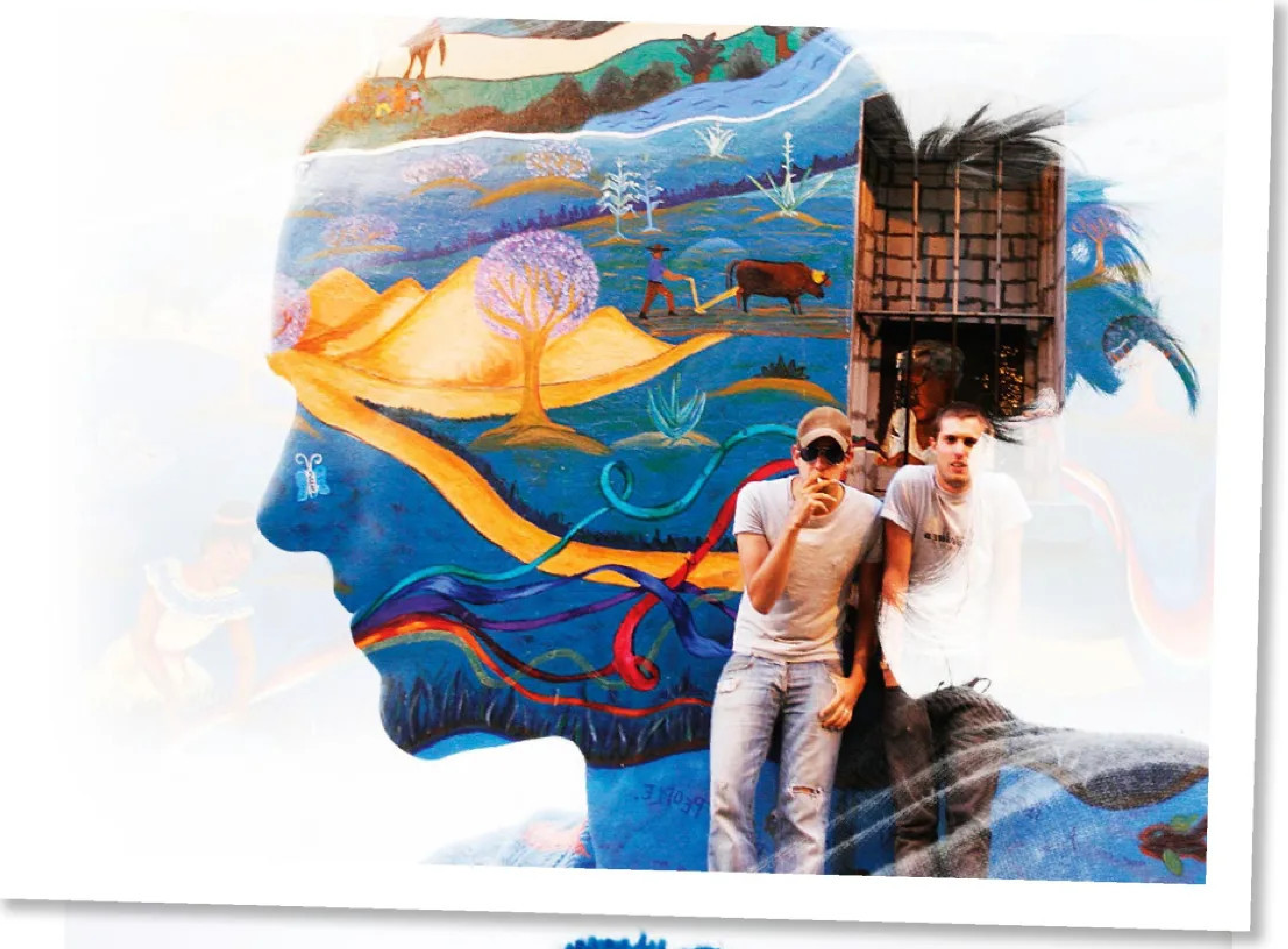
14 Focus on the hands

Hands can sometimes tell us as much about a person as their face, so try focusing on them instead – or any other part of the body that reveals something about the subject's character, life, or occasion. When photographing newborn babies, one easy shot to try is to frame up the tiny hands or feet, perhaps with the parent's hands included to show the scale.

Composition tip

15 Keep it simple

If you're ever stuck for an idea, the best way course of action is to keep it simple. Portraits should be all about the subject, not the photographer, so don't try to show off too much with flashy techniques and visual tricks. Concentrate on getting the basics right: posing, expression, lighting, and background. A simple, elegant portrait is often the best course of action.



Camera tip

16 Double exposures

The old analogue technique of winding back the film to expose the same frame twice has long been used to create beautiful images. Your Nikon can create in-camera digital doubles with Multi Exposure Mode. Or you could blend two images in Photoshop with the Screen Blend Mode (as we've done in the image above). Double- exposures can be hit and miss, but it helps to give a shape to the effect if one of your two frames is a face against a light backdrop, such as the head in profile here. The second frame can be anything you like.

Posing tip

17 Accessorise

Props and accessories like hats, scarves and jewellery can inject a little extra personality into your people photos, so it's worth asking the person you're photographing to bring them along to the shoot. Hats, in particular, can add a splash of colour and texture that contrasts nicely with skin, especially in baby photos.

18 Posing tip

Go to the wall

A simple way to pose a person is to ask them to stand with their back to a wall or other surface, like the red bus above, then move close to the surface yourself. This brings several benefits: first, it presents you with a side-on view of the person, which has a slimming effect; second, it creates a lovely sense of depth, as the wall recedes out of focus in the background; and third, it makes flat light (the kind you get from a cloudy sky) more directional as it can only come at the subject from one side, so you'll get a gentle fall-off between light and shade.

19 Composition tip

Crop with confidence

Daring crops can make your portraits more dynamic, so don't be afraid to crop into the head, or position the subject right on the very edge of the frame. There are no rules when it comes to cropping like this – it's all about whether the image feels right to you.

20 Composition tip

Background info

If you break a portrait down into different parts, then the two main elements are typically the subject and the background. These should be regarded as equally important. No matter how carefully you craft the lighting and pose, if the background looks a mess then the shot is going to be ruined. If in doubt, keep it simple with a plain backdrop. And if you can't do this, look for ways to de-emphasise a busy backdrop, or use it to lead the viewer's eye towards your subject.

21 Posing tip

Think about gaze

When shooting close-ups, consider where you want the subject's eyes to look. Eyes looking at the camera create a connection between subject and viewer, but eyes looking elsewhere give your portrait a more contemplative mood, as if the subject is lost in thought. Getting a couple to look down together, for example, makes it feel as if thy're sharing a private moment. There's a school of thought that says looking to the right of the frame is hopeful, while looking to the left suggests regret.

22

Camera tip

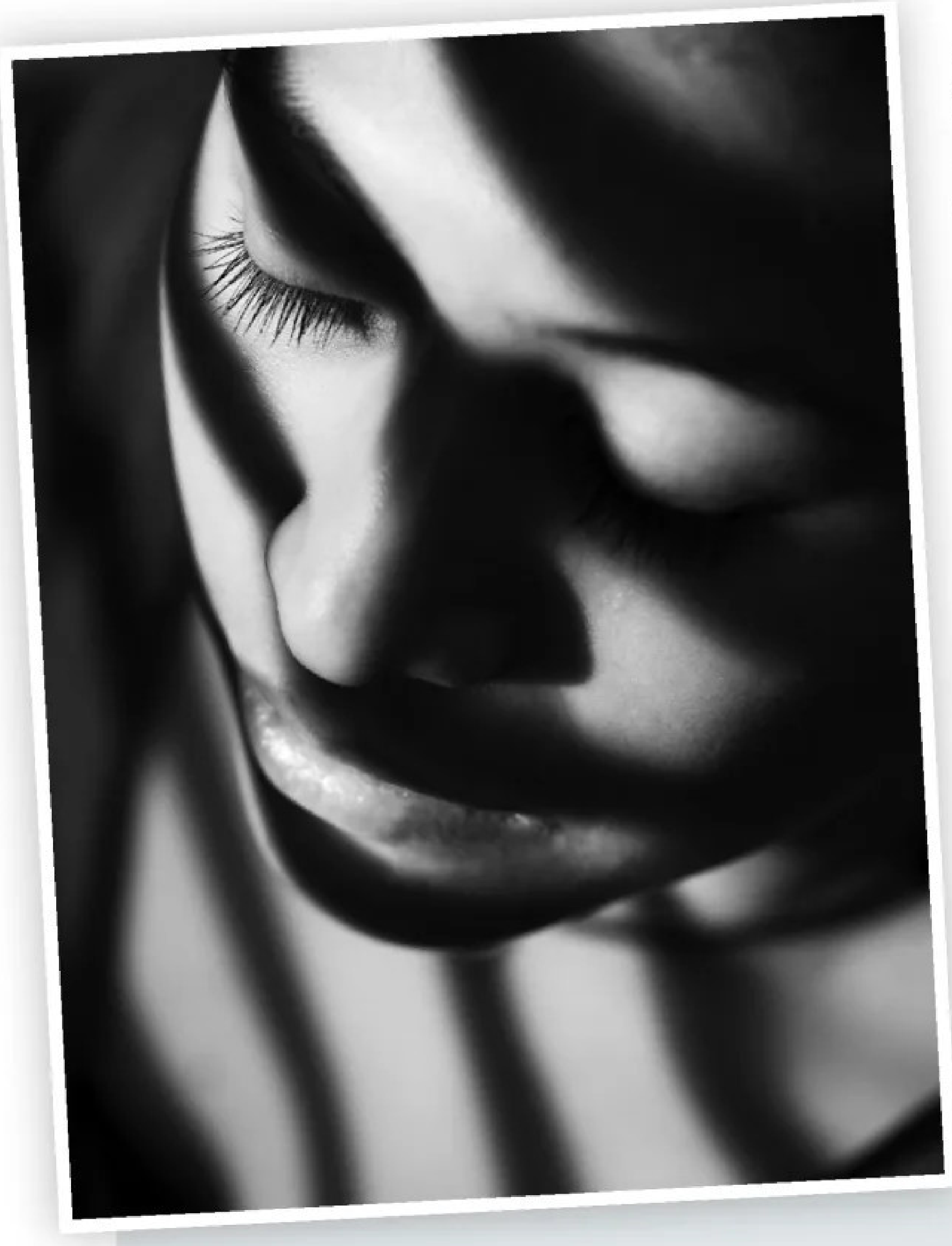
Go long

Along with your aperture, the other big factor in creating blurry backdrops is the focal length of your lens. Background blur is lessened with a wide angle, and emphasised at longer focal lengths. So if you want the background to be blurrier, take a few steps back and zoom in more. Focal length can also change the way the body looks. For a close-up or mid-length portrait anything below 50mm can distort features, enlarge noses and make heads appear out-of-proportion with bodies. Longer lenses have a compressing effect that makes faces and bodies more attractively proportioned. So when it comes to choosing a focal length, go long!

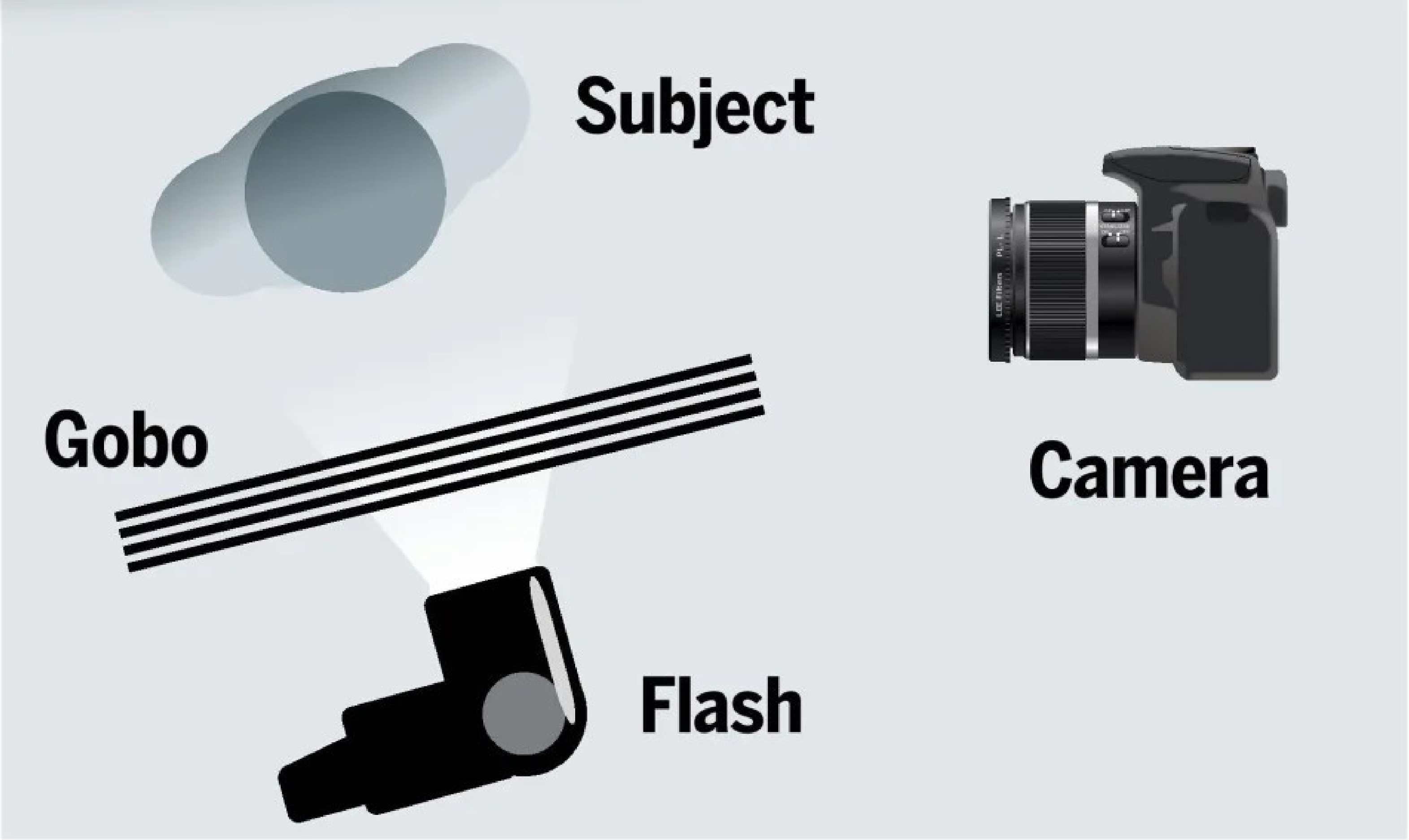
24

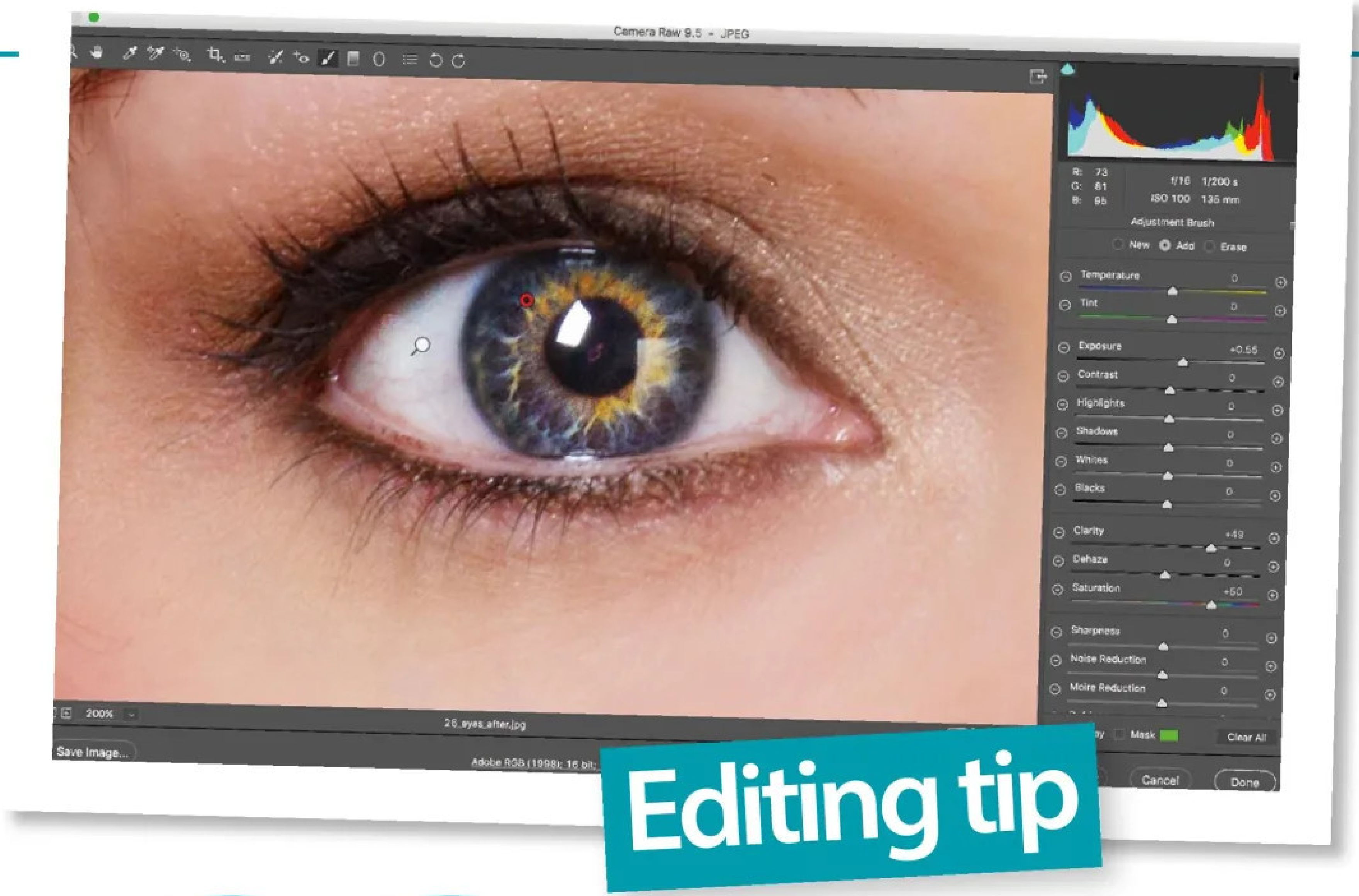
Lighting tip

Gobo lighting



A 'gobo' is a lighting term that means 'go-between'. It's a catch-all term for anything that you intentionally place between your light source and your subject to create a pattern of strong shadows. It's a useful technique for adding mood and drama to your portraits (as such, gobos are often used in films and television). A venetian blind is a classic example, casting strips of light across a face or backdrop for a moody, film noir look.





Editing tip

23

It's all in the eyes

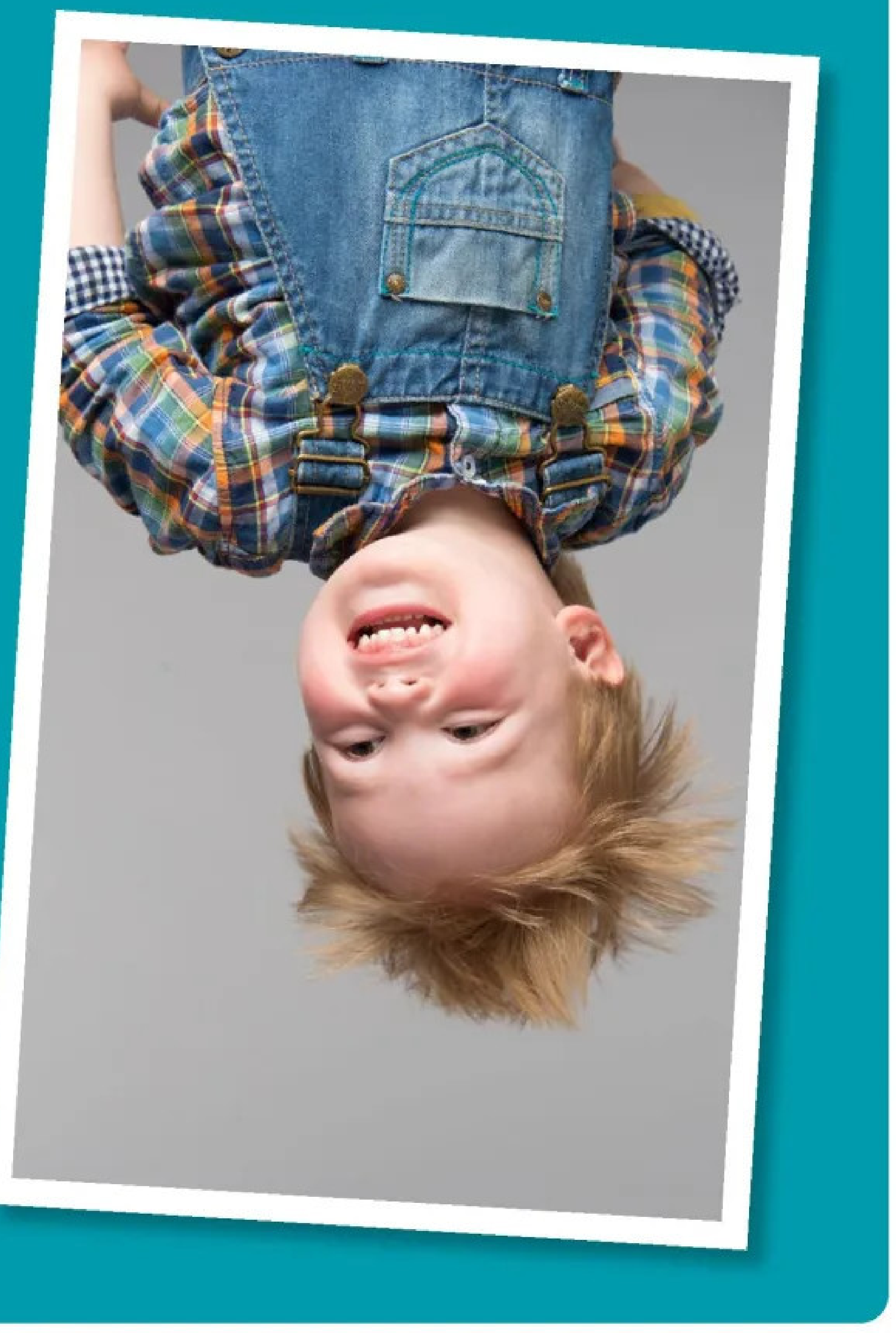
It's often said that the eyes are the gateway to the soul, so in terms of portraiture, they're one of the most important elements in the image. As such, eyes will often benefit from a subtle boost. (As always, the golden rule of retouching is to use a light touch.) Using Camera Raw (or Lightroom's) Adjustment Brush, paint over the whites of the eyes and dial in positive exposure to lift them. Then make a new adjustment for the iris. Increase Exposure, Clarity and Saturation, then paint over the iris (but not the pupil) to lift it. Take care not to push the settings too far, though; blinding white eyes are one of the worst – and depressingly most common – Photoshop sins.

25

Posing tip

Make it fun

Don't try to force expressions or poses out of subjects. Saying 'cheese' may get the teeth on show, but it rarely leads to a natural smile. Instead try to get people relaxed, and if they're not into smiling, then there's nothing wrong with a moody portrait. When it comes to photographing children, trying to get them to stay still and pose is invariably going to be a losing battle, so look for ways to make it fun for them. Anything active usually works, like running, jumping or dancing. And a few minutes expending energy at the start of a shoot may mean they're more likely to sit still and smile later on.

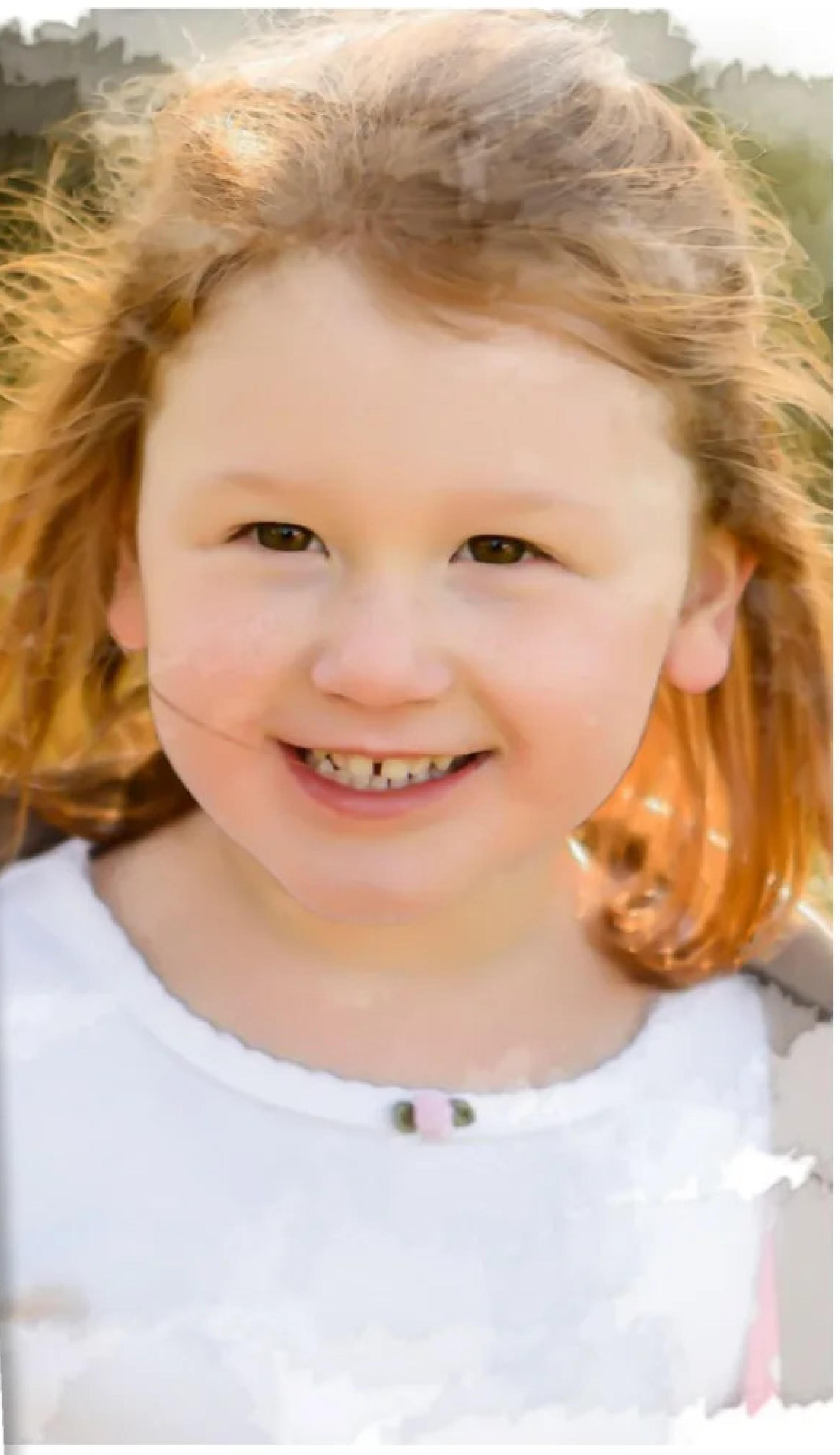


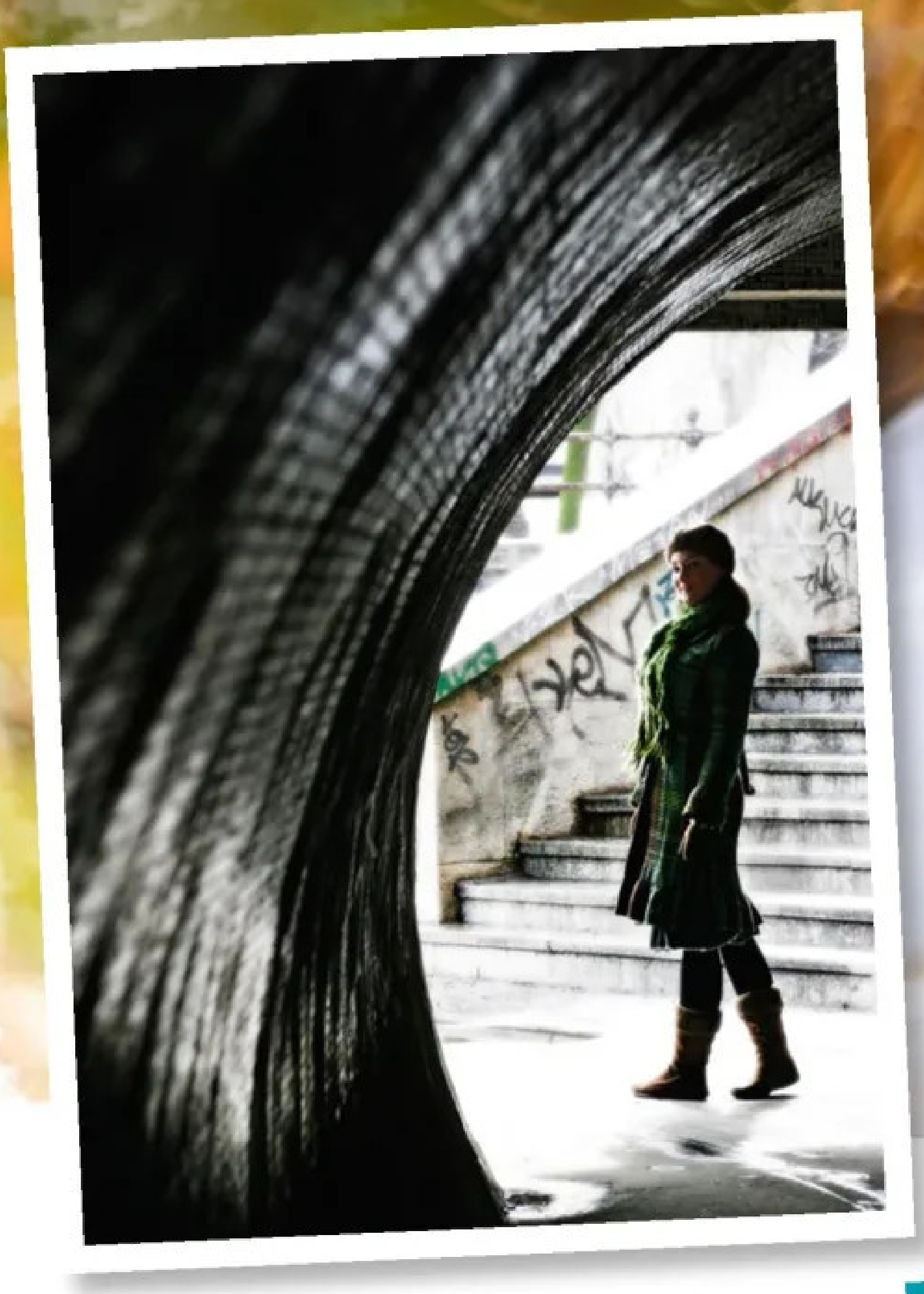
Editing tip

26 Paint a portrait

Why not turn your portrait into a digital painting in Photoshop? First create a duplicate layer (Cmd/Ctrl+J), then apply the Surface Blur filter (Filter>Blur>Surface Blur). Next duplicate again, use Filter>Blur Gallery>Glowing Edges. Then invert with Cmd/Ctrl+I, desaturate with Cmd/Ctrl+U and change the Blend Mode to Multiply. This should give you a sketch effect over the image; lower the layer opacity to tone it down.

Next you can give your image a brushed border effect. First make a new layer and fill with an off-white colour (Edit>Fill). Hide it, then, with the layer below selected, hit Cmd/Ctrl+Shift+Alt+E to merge existing layers into a new layer. Add a layer mask and reveal the white layer below. Grab the Brush tool, set colour to black, then go to the brush tip settings, click on the flyout menu and load in the Wet Media brush set. Choose a brush and paint around the edges of the frame to roughen them up.

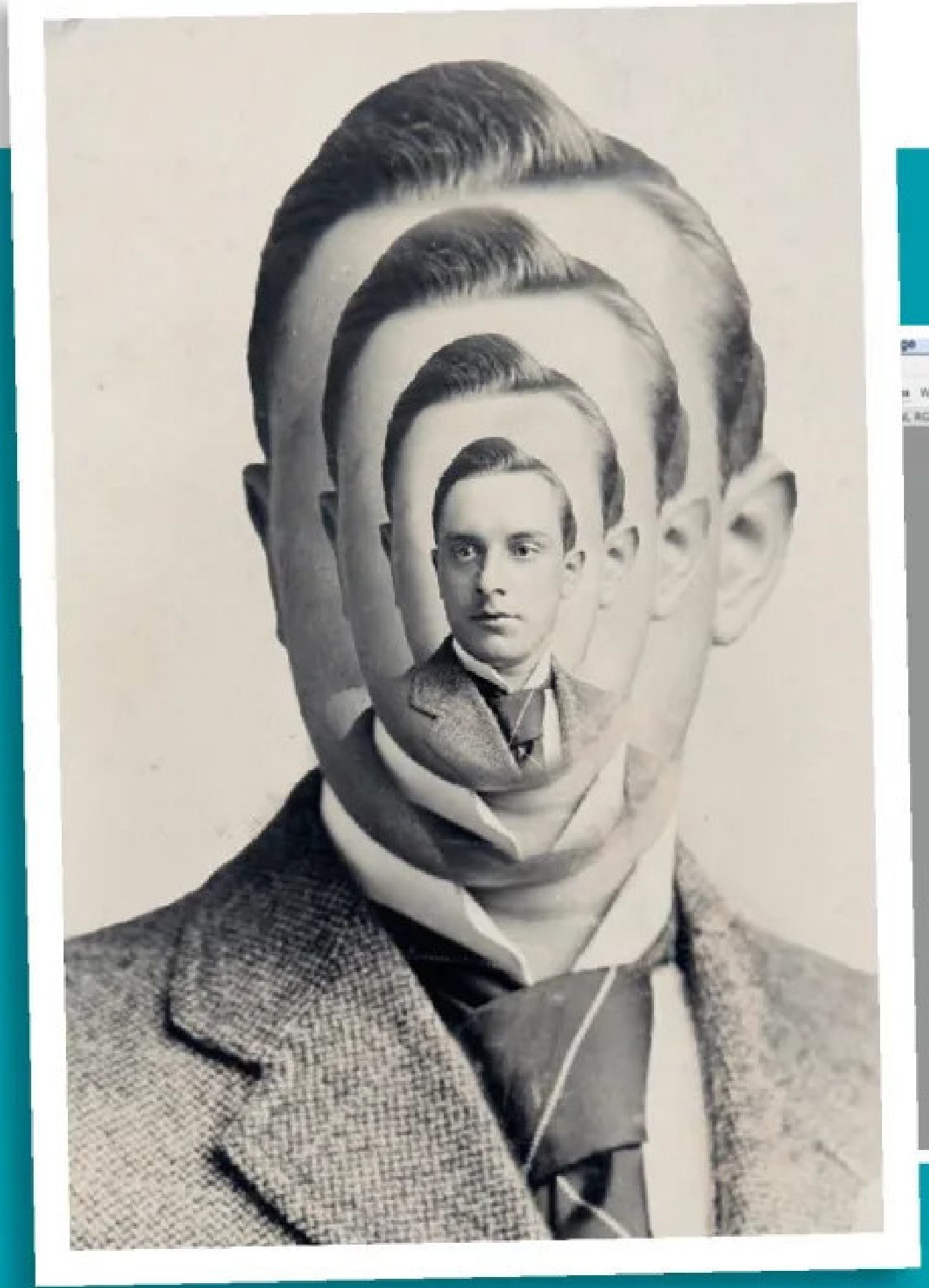


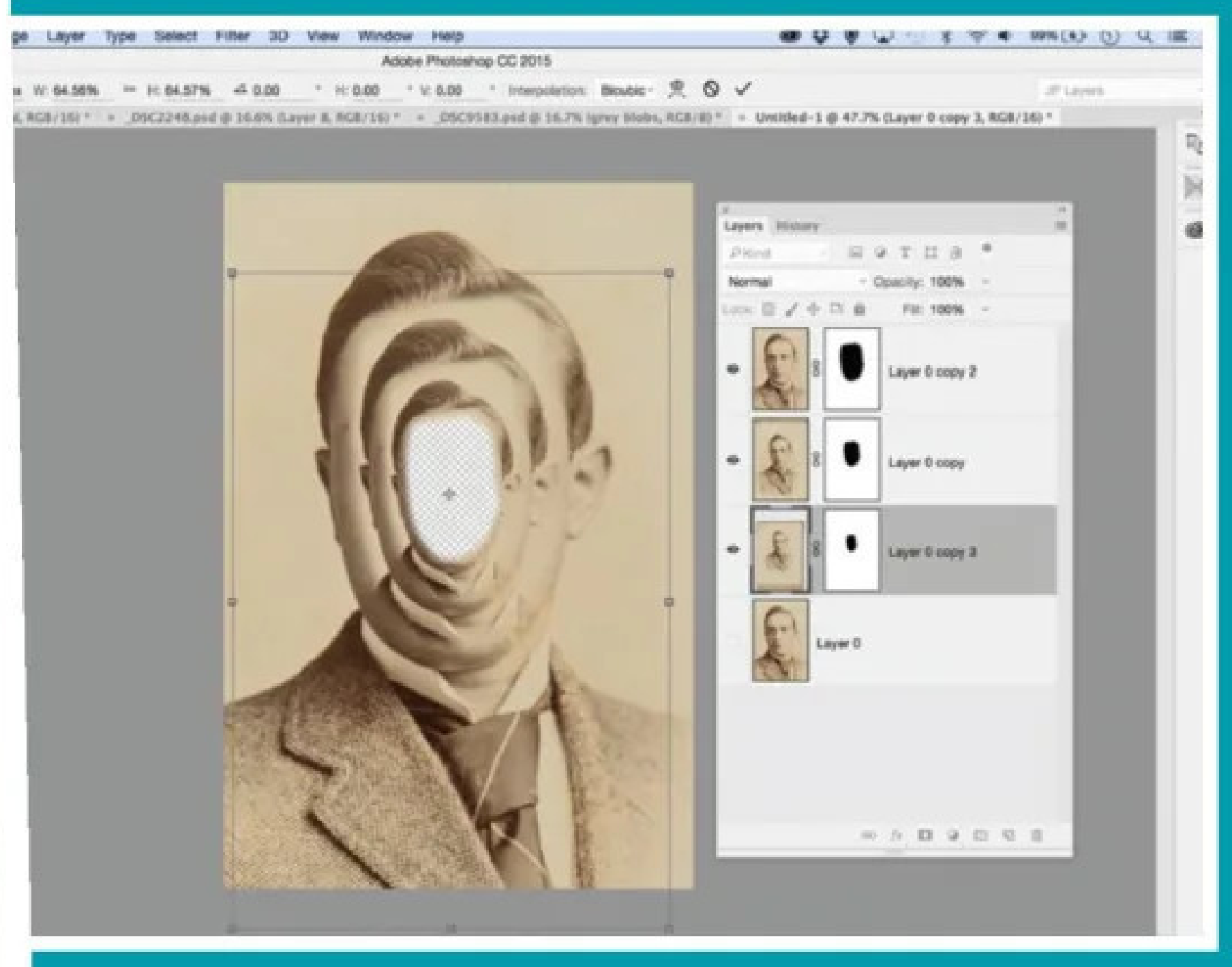


Composition tip

28 Frames within frames

When it comes to portrait composition, the basic principle is simple: find interesting ways to draw the eye in towards the subject. One trick that rarely fails is to look for natural frames within the frame. A doorway, a subway tunnel, a convenient opening in the trees, or even the subject's own arms can all work well.





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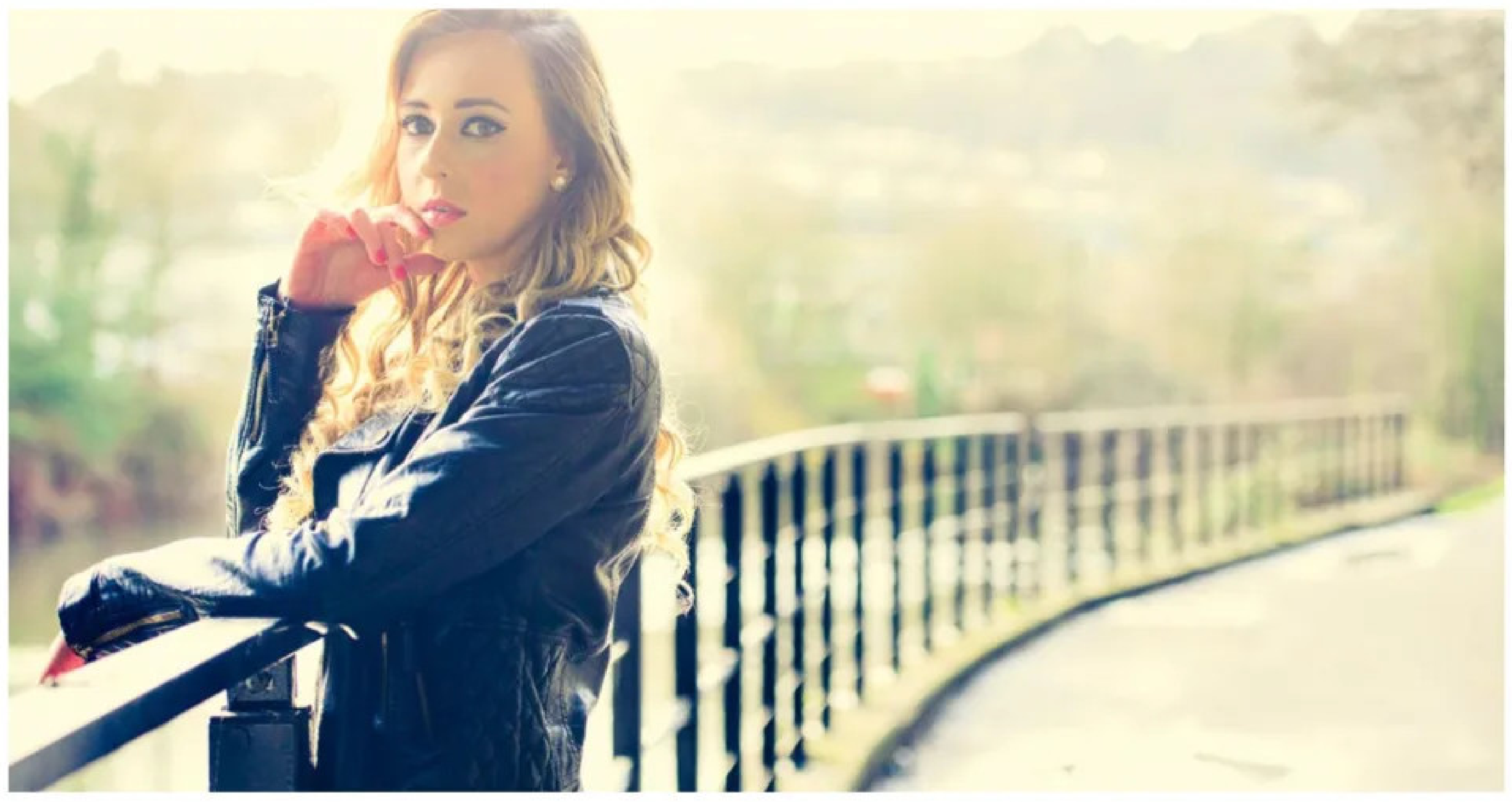
Editing tip

Go vintage

Many of us have drawers or boxes full of old portrait photos, so why not give them a new lease of life? Digitising old photos is easy, even if you don't have a scanner: just light them with two lamps, one either side at an angle of 45 degrees, then capture the photographs with your DSLR.

If you're feeling creative, then you could also use your vintage photos for your own quirky Photoshop projects. The retro look goes hand in hand with a surrealist approach. For an effect like this, add a layer mask and paint black over the face to remove it, duplicate the layer and drag it below the first. Go to Edit> Transform and resize to fit it inside the hole, then repeat.



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Composition tip

Leading lines

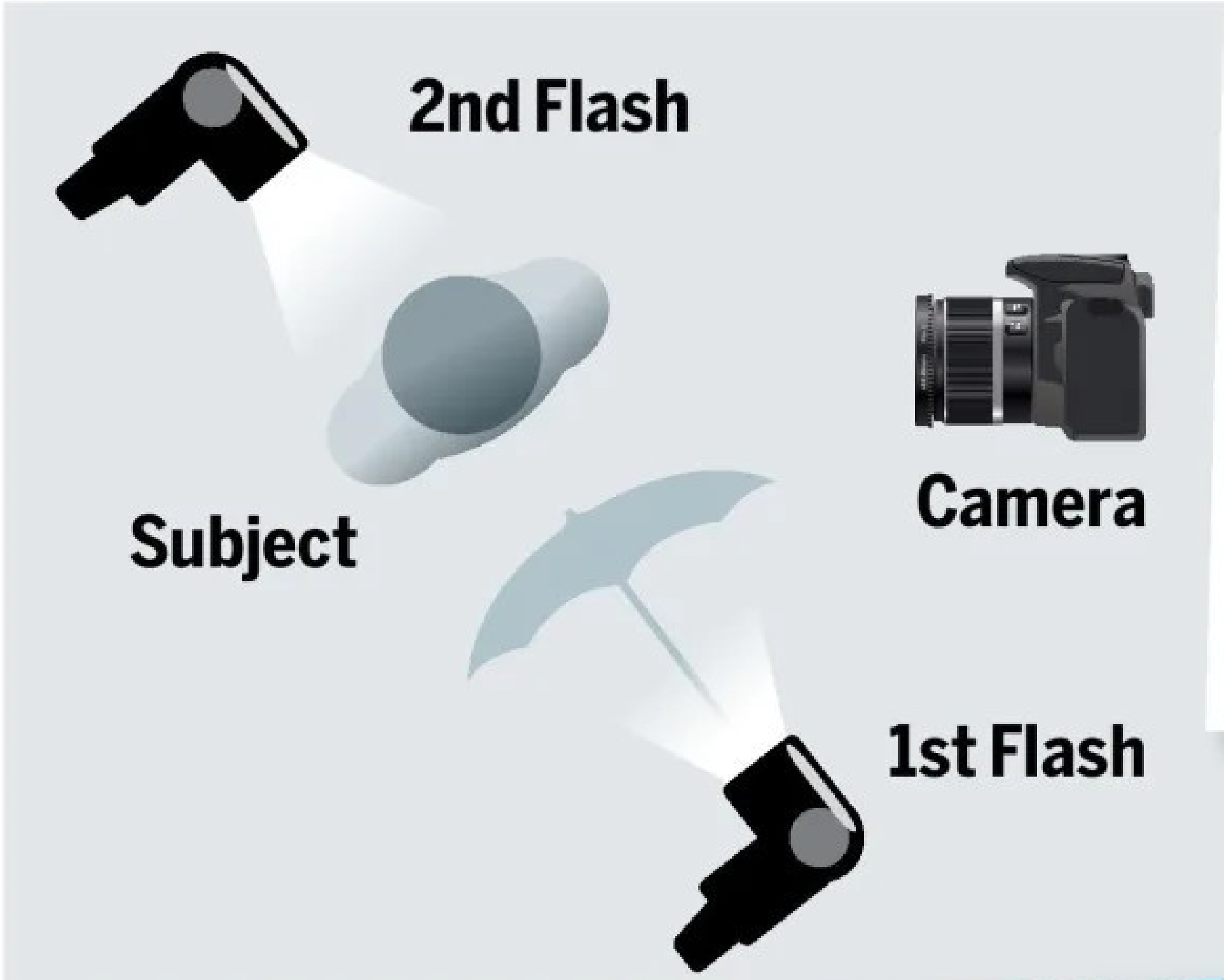
Another compositional device that's especially useful for portraits is leading lines. Look for natural lines in your scene, such as fences, buildings, roads or anything else that creates a straight or curved line. These lines can then be used to draw the viewer's eye through the frame. Of course, the great thing about portraits is that your subject is mobile, so you can position them on the line, knowing that the viewer's attention will be drawn to them.

Lighting tip

30

Cross lighting

Study other portraits, as the catchlights in the eyes can give you an idea of where the lights were placed. Here, cross lighting has been used. Two lights were positioned opposite one another, one in front of the subject and slightly to the left, the other behind them to the right, angled back towards the camera. The front light illuminates the face and body, while the rear light lifts the edge of the hair and body, adding depth and providing a highlight that separates the subject from the background.



Think about colour
If clothing matches the background, it will seem as though the subject is part of the scene and belongs there

Composition tip

31

Think about colour association

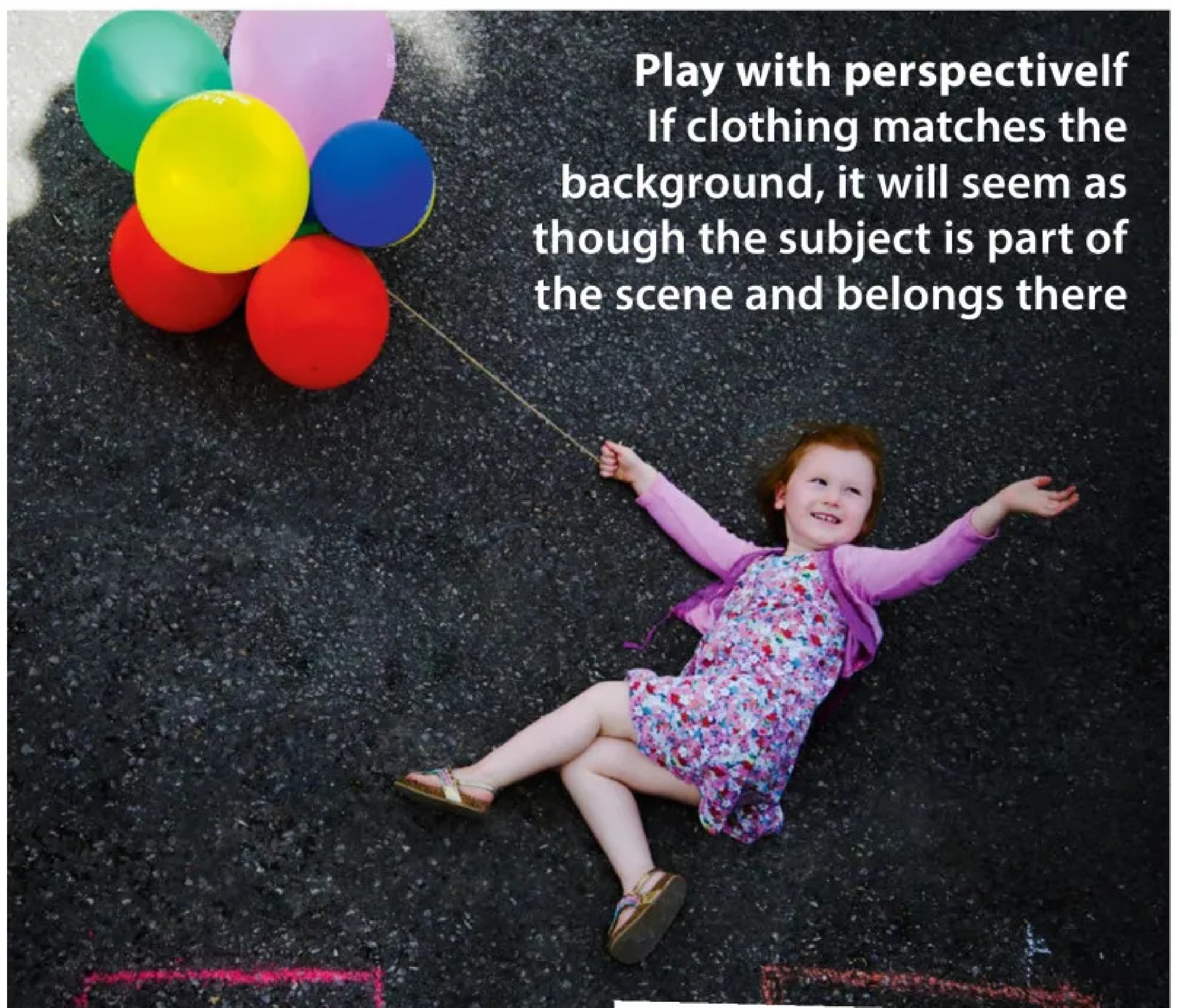
Clothing plays a huge part in the look and feel of your portraits. If in doubt, simple is often best; ask your subjects to wear blocks of colour, and steer clear of anything too busy or covered in brand names. Look for ways to associate the colour of the clothes with the surroundings, perhaps by closely matching the colours or by finding two complementary colours, such as green and red, blue and orange or yellow and purple.

Composition tip

32

Play with perspective

There are lots of fun ways to play with perspective in your portraits. You could mess with the scale by making closer, smaller subjects interact with larger, distant ones (such as the classic 'person holding up the Leaning Tower of Pisa'), or flip your Nikon on its side for different view of the world. A top-down view like the one to the right is another popular option. With a few props and careful posing, you can transform a bland patch of ground into a playful scene. It's an effect that works especially well with babies and young children, who enjoy creating the illusion.



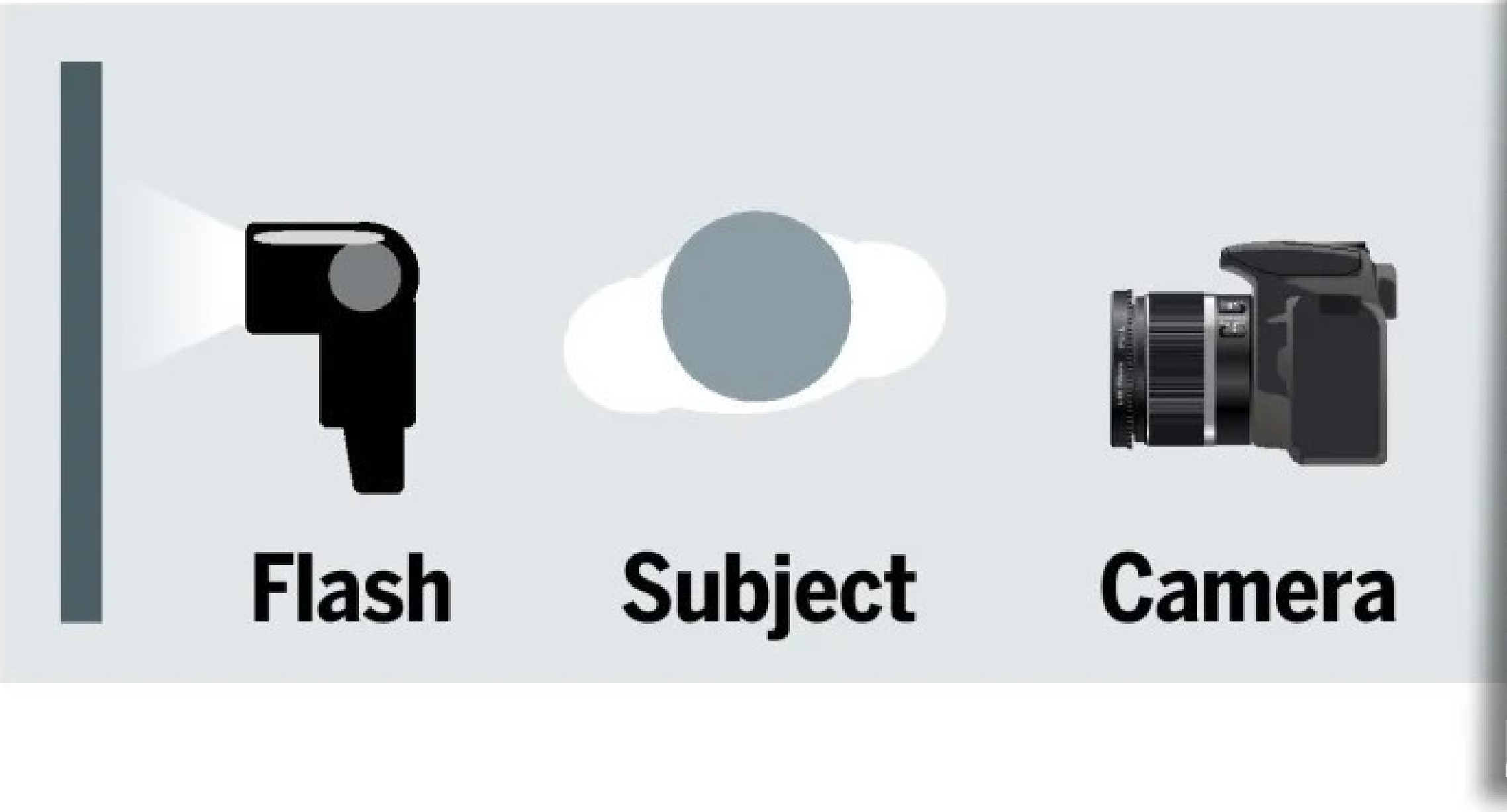
Play with perspectiveIf
If clothing matches the background, it will seem as though the subject is part of the scene and belongs there

Lighting tip

33

Silhouettes

A person's silhouette can say as much about them as a fully lit face, and makes for a strikingly different portrait. To shoot a silhouette, all you need is a backdrop that is much brighter than the light falling on the subject. If you have an off-camera flash, train it on the lighter background. Alternatively, shoot outside with the subject in shade against a backdrop of bright sky.



Composition tip

34

Look for reflections

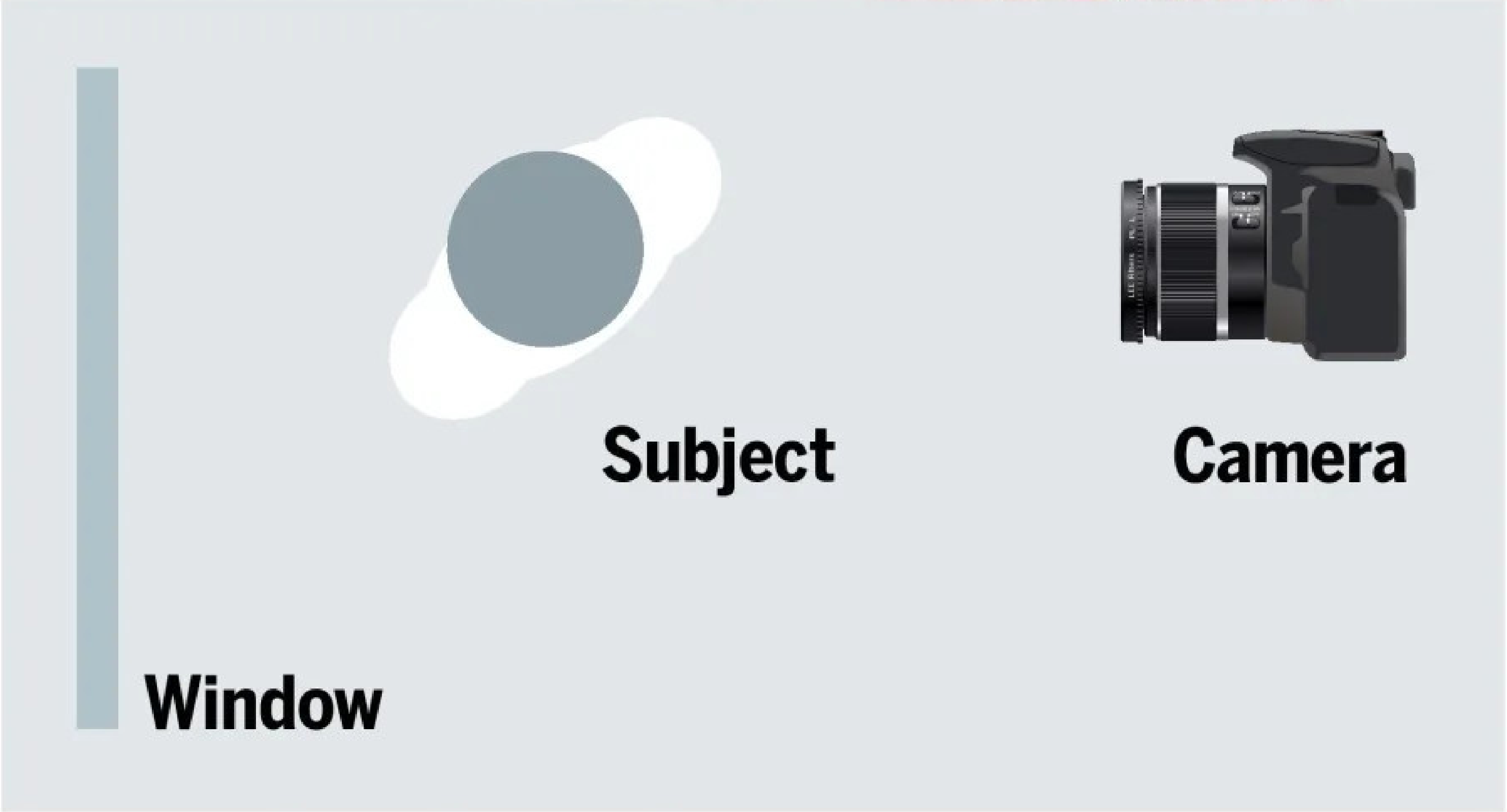
Look around and you'll find shiny surfaces everywhere. Puddles, windows, mirrors, lakes and wet surfaces can all be used to liven up your composition by including a reflection of your subject.

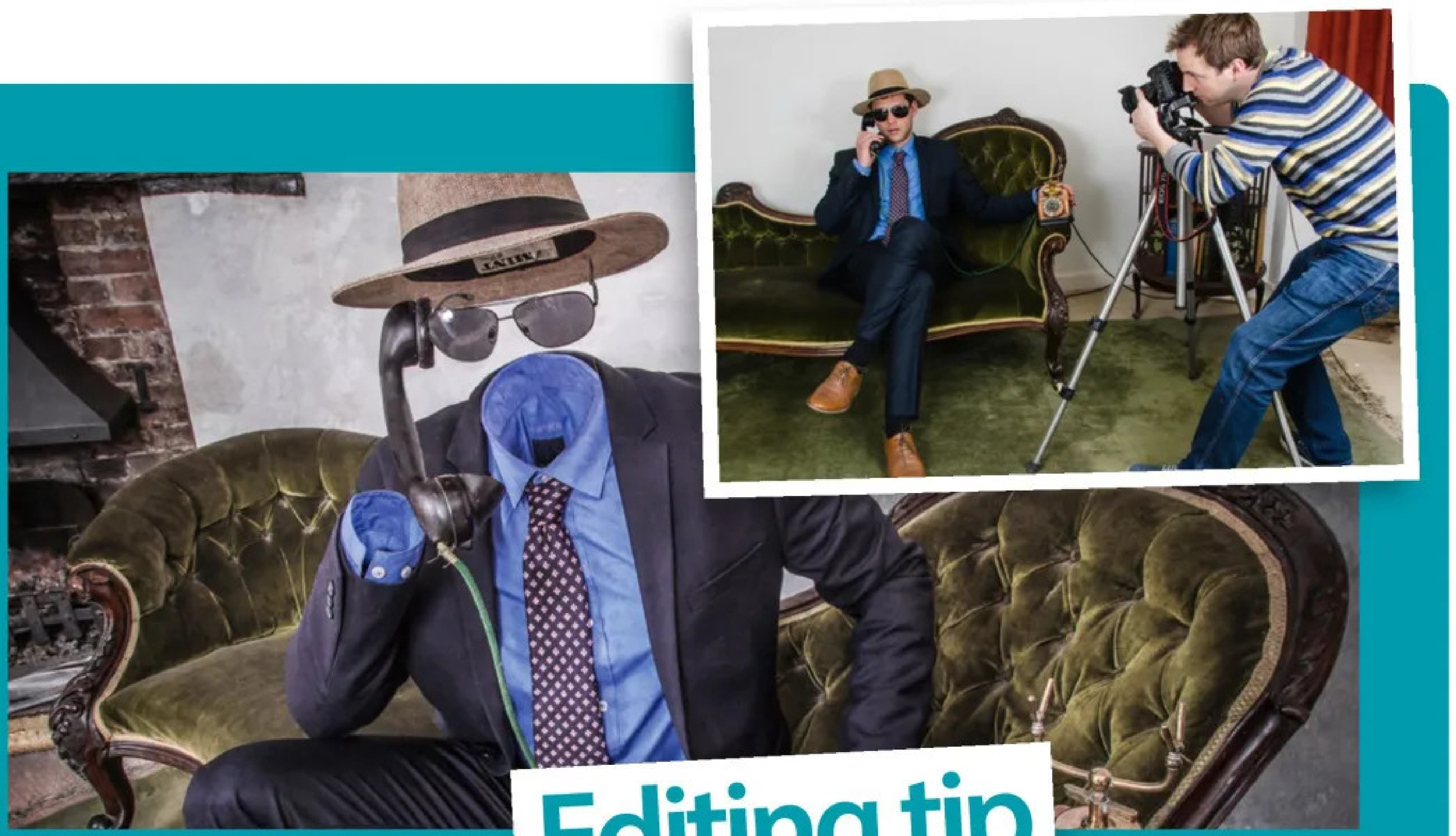
Lighting tip

35

High key with a window

Window light may be useful for providing soft, flattering illumination, but it can also make a good backdrop for a rough-and-ready high key look. Simply position your subject in front of the window and shoot straight at it. Expose for the shadows and the background will blow out (an easy way to do this is to increase exposure compensation by two or three stops). Ideally, choose a large window that's high above the ground to frame a clear expanse of sky behind the glass.



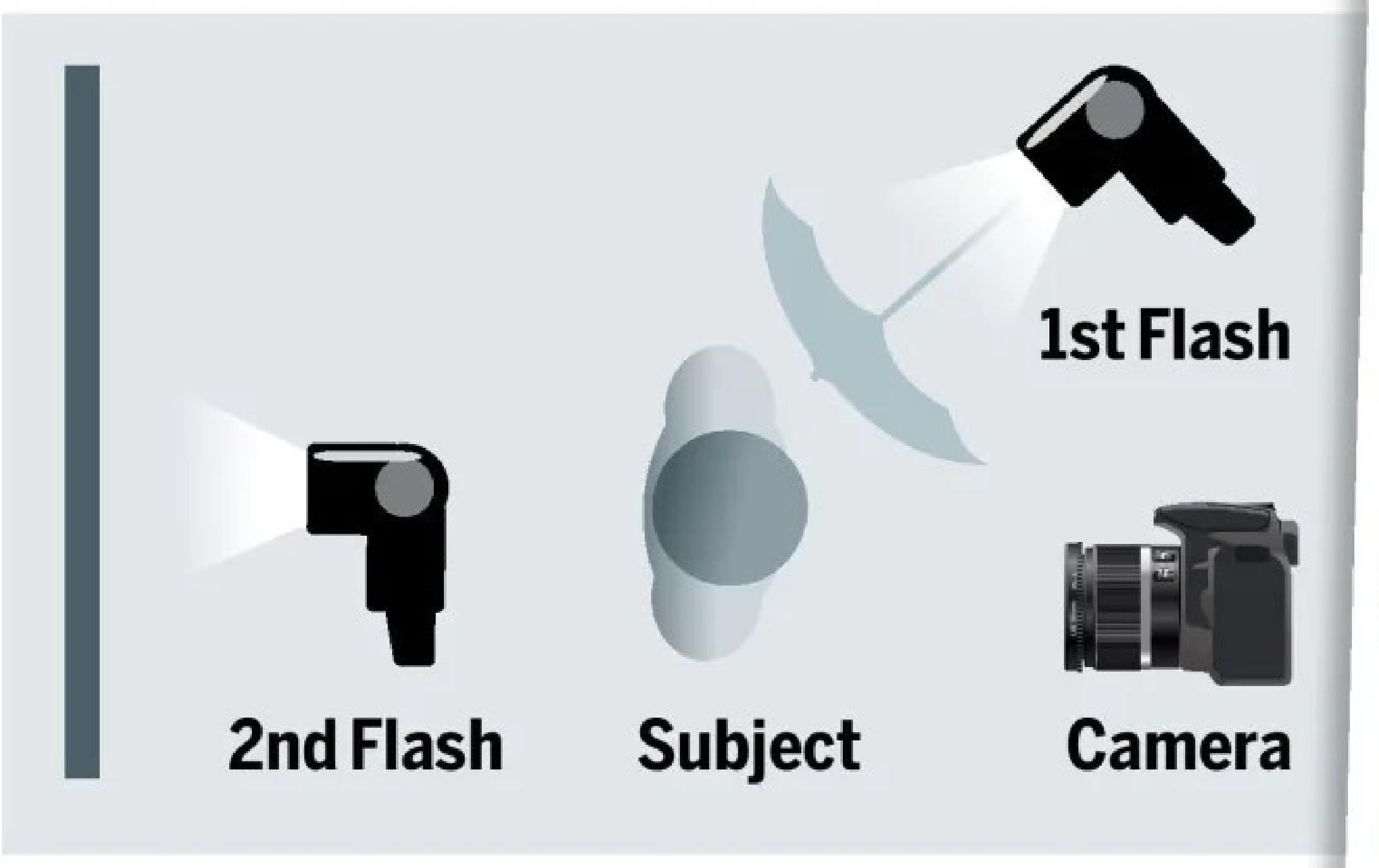


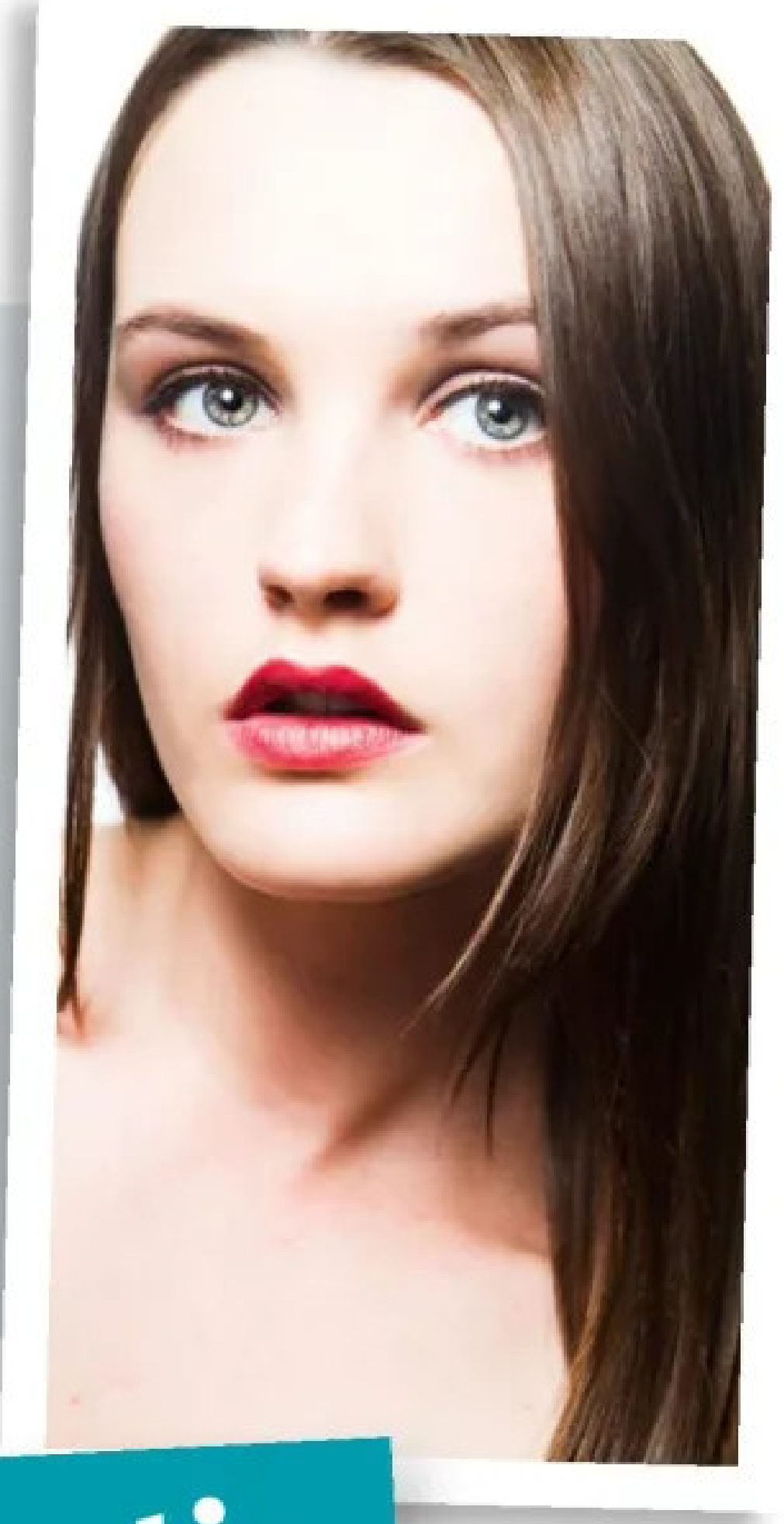
Editing tip

36

The invisible man

This is a fun Photoshop trick anyone can try. Using a tripod, first shoot the subject in position, then take another shot of the empty scene. Next, take extra shots while holding the clothes up to display the insides of the collar and sleeves. Now you're ready to combine everything in Photoshop. First copy and paste the subject image on top of the empty background, then add a Layer Mask and paint with black to remove any bare body parts. Copy and paste the insides of the clothes. Position and blend them in with layer masks until it all fits.





Lighting tip

37

High key with flash

The high-key look is ideal for portraiture, and you don't necessarily need a studio to achieve it. You simply need to over-expose the background so that it blows out. This is easy with two flashguns. Position one in front of your subject to light them (use a shoot-through umbrella for softer light), then place the other on a stand behind them, angled onto the wall (any white wall will do). The background flash should be set to a higher power than the frontal light. Expose for the front light and the background will blow out.

How to shoot sharper shots

Nikon DSLR images have never looked so good – that is, unless you have problems with sharpness. We look at how you can improve your technique and bring the sharpness back…

When you are shooting in the Raw format, you have a wide latitude for correcting your exposures. Even quite significant over- and underexposure can be rectified, and as long as you crop loosely, then you can also always improve your composition in post-production. One thing that you can't do though – in spite of a number of Photoshop forthcoming feature teaser videos – is successfully deblur an unsharp image. If you don't get your picture sharp in camera then there is pretty much nothing that you can do, other than just deleting it.

The problem is compounded by the increasing resolution of digital cameras, which are better than ever at resolving detail. Which also means that they are merciless at showing up any inconsistencies with quality or technique. When I run workshops, I'm always amazed by the amount of people that will edit their pictures without zooming to 1:1. They're usually the ones who don't put their hands up when I ask who has problems with sharpness. If you don't look at images properly you won't know you have any issues.

Whilst you should always strive for the sharpest pictures, you should have reasonable expectations and be mindful of your own equipment and levels of skill. Don't kid yourself that your pictures are perfect, but don't sacrifice wonderful memories just because they aren't 100% perfect.There are a number of things that can affect the sharpness of your pictures. The main issue is the accuracy of focusing, but subject blur and camera shake, limited depth of field, post-production problems and equipment issues can all have their effect.

Keeping your focus

Ensuring that your focus is hitting all the right points during a shot is imperative, but don't miss your shot

Your camera can focus faster and more accurately than you ever can: the problem is that it doesn't know what part of the scene you want it to focus on. The default setting for most cameras is that the camera will automatically choose which focus sensor to use, which governs where the focus will fall.

If you are photographing a subject away from the camera, in the centre of frame, in bright light and with a narrow aperture, then the camera might choose the right focus.

If you are being more creative, shooting closer, with the subject towards the edge of the frame and with a shallower depth of field, then there is a good chance that your camera will focus on the wrong object in the frame – this might make the camera miss the focus. If, for example, you are photographing wildlife, the camera might select a sensor that places the focus on a branch in front of an animal, and not the animal itself. Even if you are photographing a person using a focus mode that prioritises faces, you will have no control over which face in the frame it chooses. The only positive manner to govern which exact part of the scene your camera focuses on is to control the focus by yourself. When you read most articles about autofocus you'll be given a table of various settings – many of which involve delving into menus. This is all very well when you know precisely what you will be photographing – such as a sports photographer at a football match.

But if you're a travel and location photographer, like me, then you never know what you'll need to focus on next. One minute you might be shooting vegetables in a market, next you'll be shooting a close-up portrait, then after that, a tracking shot of a porter carrying sacks on his head.

This variation led me to develop a hybrid system for focus that will give me the best settings for most situations without needing to keep changing them, meaning I won't miss a moment.

Focus tracking

When shooting moving subjects, like this dancing at a monastery in India, then lining up the background is as important as keeping the dancer in focus. To do this, I moved the active sensor over the dancer and tracked him around, keeping him in the same place in the frame until the background lined up and then took the shot – continuous AF ensured the dancer was kept sharp.

Set your focus

My camera is always set to a single moveable focus sensor and AF-C (Continuous-servo AF) mode, instead of AF-S (Single-servo AF), where the camera will focus once and hold that focus until the shutter button is released. This means the camera will continually refocus based on the active sensor. Using the Multi Selector, I will then move the sensor so that it is over the precise point in the frame I want to be in focus – even if I have to compromise on the composition to achieve it – this can be tightened up in post-production.

This is ideal for maintaining accurate focus in a portrait, where the depth of field might be tiny. If you, or your subject, moves slightly, the subject's eyes can move out of focus if you use a single static focus point. If you're using continuous focus and the sensor is over the eye, then it'll always be sharp. Once I have lined up the sensor over the eye in a shot like this, I move my position slightly to line up the background: AF-C means the eye will always stay in focus as I move to tweak composition in the image.

3D tracking

If the subject is moving, or is likely to move erratically, then use the 3D focus area. It will behave in exactly the same way as a single focus sensor, but will lock onto the subject using its colour sensor to track it as it moves through the frame.

Position your sensor

Even if your subject is moving, you will generally want to keep it in the same place in frame. Having the sensor in that position will also improve your composition, as it'll keep it in focus whilst maintaining its position in the picture.

If the subject moves slightly relative to the frame/sensor, you can always adjust the active sensor using the Multi Selector. Alternatively, maybe the 3D-tracking or Dynamic-area modes will work better for you. They are similar to the Single-point AF mode, as they involve moving a single point, but will compensate for movement of the subject relative to the selected sensor.

Autofocus options

Other methods of controlling focus

Focus & Recompose

Using the centre focus sensor, and AF-S (Single-servo AF mode), point the focus sensor at the subject, half depress and hold the shutter release button to focus and then hold the focus Recompose the picture, then finish pressing the button to take the picture. The focus will be held as long as you hold down the button. As soon as you release the button, and press it again, then the camera will refocus.

Good for accurately focusing on a completely stationary object
Bad for any moving object. It can also lead to poor composition, and can give the game away when shooting street photography with the subject at any point within the frame.

Back button focus

Advocates of back button focus swear by this method, where the autofocus activation function is removed from the shutter release button and focus is initiated using the AF-On button on the back of the camera. The camera should be in AF-C mode so it will continuously refocus whilst the AF-on button is held down. To lock the focus, simply release the AF-On button.

This method works well if you're using a Dynamic AF-Area, where the camera selects the focus point. If you want to use a moveable point focus, then this method is not ideal, as your thumb has to activate the AF-on button whilst moving the focus sensor, giving it two jobs to do at the same time. This, for me, is where back button focus falls flat.

Good for sports and other action-packed photography; focus tracking; shooting on a tripod
Bad for precise and accurate focusing; combining with a moveable focus sensor

Shooting in the dark

If you are shooting in very dark conditions, and the camera is struggling to focus, then you can use the built in AF assist light to illuminate the subject, or the infrared focus assist on a Nikon Speedlight. To do this, then you will need to be in AF-S focus mode.

Changing settings

Even if the subject is stationary, I will still shoot with continuous autofocus and move the single focus sensor. It is quicker than changing the focus setting in menus, and you never know what focus settings the next shot will need.

You can use the AF-A setting which will attempt to automatically switch between AF-C and AF-S if it senses movement, but in practice for a close-up portrait even the photographer moving a few inches can throw out the focus. But this still won't be enough to trigger the AF change from AF-S to AF-C.

CEDA EL PASO
M-119

Rapid movement

If you're photographing sports, or something equally fast, then there's little chance you'll be able to move the active focus sensor in time. In these instances it's best to use the Auto-area AF instead of the single point. In this mode, the camera attempts to track moving subjects, anticipating their position and focus point so they will move into focus as the shutter is released. Switch this on, and configure it in Custom Setting Autofocus>Focus Tracking with Lock-on. If you need to switch to the Dynamic AF area quickly, recent cameras such as the D850 allow you to alter the Function button to activate it; just keep the button held down.

Avoid lock out

If you're shooting on the AF-C mode you need to get into the habit of allowing the camera to focus before taking the picture – by default, the camera takes a picture before it's focused. This is also a good habit to get into if you are shooting on AF-S, where the default setting is to lock out the shutter unless the camera has focused, delaying the shot. Squeezing the shutter release to initiate focus slightly early will ensure there will be no delay when you take the picture.

It's best to get the camera to prioritise the focus rather than release, by setting the AF-C priority selection Custom setting to either Focus + Release, or just Focus.

Focus lock

The use of the focus lock button effectively switches your camera from AF-C to AF-S mode, without needing to use any menus. This can also be useful for prefocusing on a point in the scene, ready for a moving object to come into focus. If you're staking out a background, waiting for someone to walk into frame, but don't want to point the camera at them, then prefocus on a point the subject will pass and, when they reach their mark, you can take the picture knowing that they should be in focus.

Focus method

"What if my camera doesn't have a focus sensor that naturally falls on the subject?" My focus method can cope with this too. Select the nearest sensor to the subject, then focus and recompose using the focus lock button on the back of the camera. This will either be the AFL/AEL button, or the AF-On button, reconfigured in the Menu Settings. The result is the focus will be held as long as you hold the lock button: irrespective of what you do with the shutter release button.

Autofocus modes

Nikon Focus areas explained

Although I predominately use the Single-point AF or Auto-area AF, you might find one of the other AF-area modes are more suited to your style of photography. Although not every camera will have all of these modes, the other potential Nikon focus areas are as follows. These explanations are based on the camera being set to the AF-C (Continuous-servo AF) mode. It is worth experimenting to see which of these modes will work for your camera and style of photography.

Single-point AF

A single focus sensor is active, and the camera will focus on whatever it falls over. The active sensor can be changed using the Multi Selector.

3D-tracking AF

Similar to Single-point AF, a single sensor is active, and the active sensor can be changed using the Multi Selector. When the shutter release is pressed, the sensor focuses, but also locks on to the subject using colour recognition and it'll attempt to track it across the frame. It will also track the subject if you recompose. This area mode is a good replacement for single point.

Dynamic-area AF

Similar to Single-point AF, a single sensor is active, and the active sensor can be changed using the Multi Selector. Depending on the Dynamic-area AF mode selected (9, 21, 51) then the corresponding number of other sensor points around the active point (8, 20 or 50) will be used to track movement.

Group-area AF

The camera uses an active matrix of five sensors that can be moved around the frame, and will focus on the closest object to within the active focus sensors. This area won't be much good if you're photographing wildlife and have an animal sitting in a bush, as the sensor will focus on the bush not the animal.

Auto-area AF

Your camera tries to automatically detect the subject and focus. If AF-C is selected then it'll track the subject.

M/A
M
VR
ON
OFF

Avoiding the shakes

Camera shake can turn the sharpest of shots into regretful missed opportunities

Oriental Ballooning

Set the correct shutter speed

Even if you have accurately focused on your subject, you can still ruin the sharpness with even the slightest camera shake. This is where the camera moves during the exposure, but the shutter speed is not fast enough to avoid showing the movement. Camera shake can look like a slight ghosting on your image, and although Adobe has a camera shake reduction filter in Photoshop, you'll want to try and avoid it in the first place.

A rule of thumb is that you should try to use a shutter speed equal to, or higher than, the focal length of the lens – for a 200mm lens, try to use 1/250 sec; or up to a stop higher at 1/500 sec if you are using a DX camera with a crop sensor.

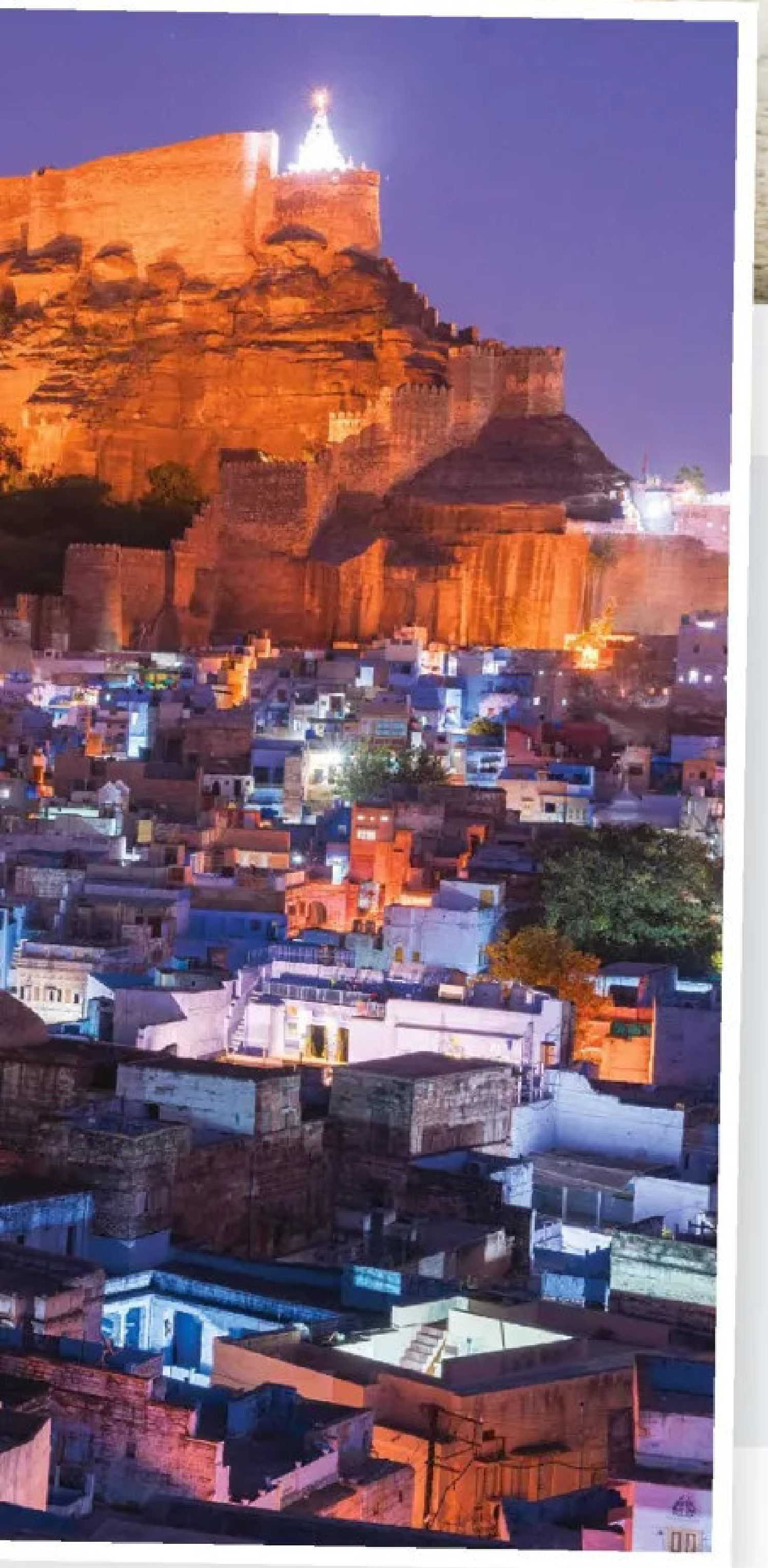
Moving subject

If you are photographing a moving subject, you'll need to consider subject blur. If your shutter speed is too slow then the subject can have moved perceptibly during the exposure, causing it to be blurred. This is one of the main factors when I decide whether to shoot a long exposure with a tripod, or handhold with a higher ISO. Subject blur will not just be a factor when shooting with a slow shutter speed in low light: if your subject is moving fast, then you might need to use a shutter speed of 1/1000 sec, or even 1/2000 sec. With this shot of a horse display in Provins, France, I used ISO640 in order to allow me to use a shutter speed of 1/100 sec at f8 – allowing me to freeze the action as well as having enough depth of field to make everything sharp.

Vibration reduction

If you improve your technique, then you should be able to handhold at speeds much lower than the rule of thumb suggests. If your lens has Vibration Reduction (VR) then switch this on, hold down the shutter release button a few seconds early to give the gyroscopes time to spin up, and then take a few shots in quick succession. Often one will be markedly better than the others.

Try to brace yourself against a wall or pillar, breathe shallow breaths and take the pictures on the exhale, and learn to squeeze the shutter release button gently, to minimise camera shake.



Long exposure technique

If you are shooting very long exposures on a tripod, then good technique is vital – as is a good tripod. If you're travelling, then carbon fibre is the way to go. I use a Sirui T-2205X, which is similar to a Gitzo, but at a fraction of the cost. It also uses the Arca mount system, so I have replaced the foot of the Nikon 70-200mm f2.8G with an Arca version that fits onto the tripod.

Shooting on a tripod, you should switch off Vibration Reduction and use a remote release. If you're shooting star trails, for example, then use Mirror lockup to reduce camera shake, and then switch Long Exposure Noise Reduction on, to reduce noise due to long exposure times.

Achieve a fast enough shutter speed

In some circumstances, you may need to increase the ISO in order to be able to use a fast enough shutter speed to avoid camera shake. This will, for the most part, allow you to avoid camera shake, but be aware that using too high an ISO can reduce sharpness on its own, because of the high amount of ISO noise.

Alternatively, if you have a fast lens with a wide maximum aperture, then you can shoot with the aperture wide open, to allow a faster shutter speed. This might cause problems with depth of field though. The balancing of shutter speed, aperture and ISO sensitivity is one of the biggest juggling acts in all of photography.

Getting some depth

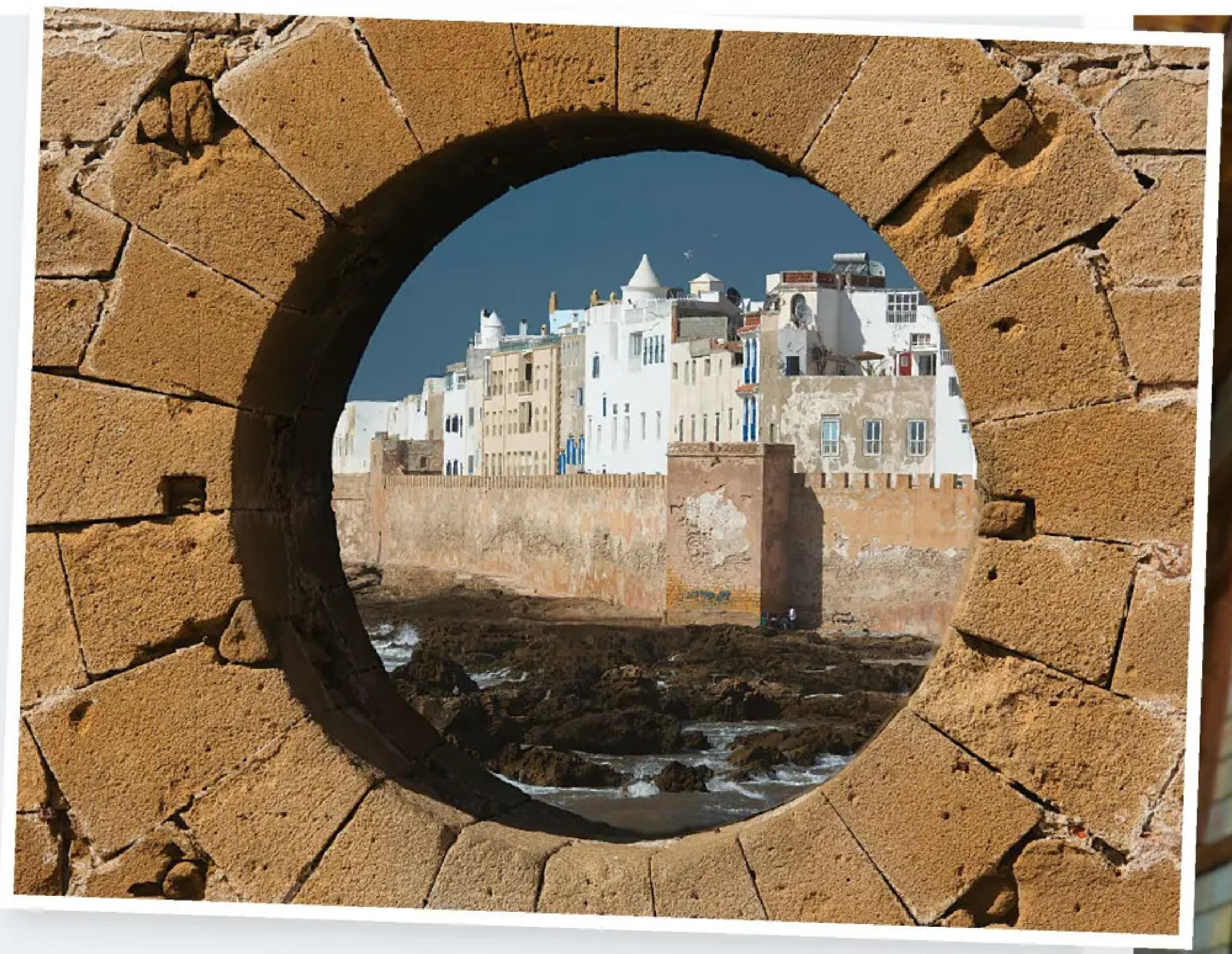
Knowing what should be in focus is absolutely imperative in composing a well-thought-out shot

Control depth of field

If you don't have adequate depth of field in your picture, then vital parts of the scene will be out of focus. For instance, you might be photographing two people who are equally important, but only one of them is sharp. If they're of equal importance, odds are you'll want them both as sharp as possible.

The most effective way to control depth of field is through the aperture you select. The smaller the aperture (the larger the aperture number like f11) the broader the depth of field – or the area in front of and behind the point of focus that is also sharp. If you use a wider aperture (designated by smaller numbers like f4) then you'll get a shallower depth of field.

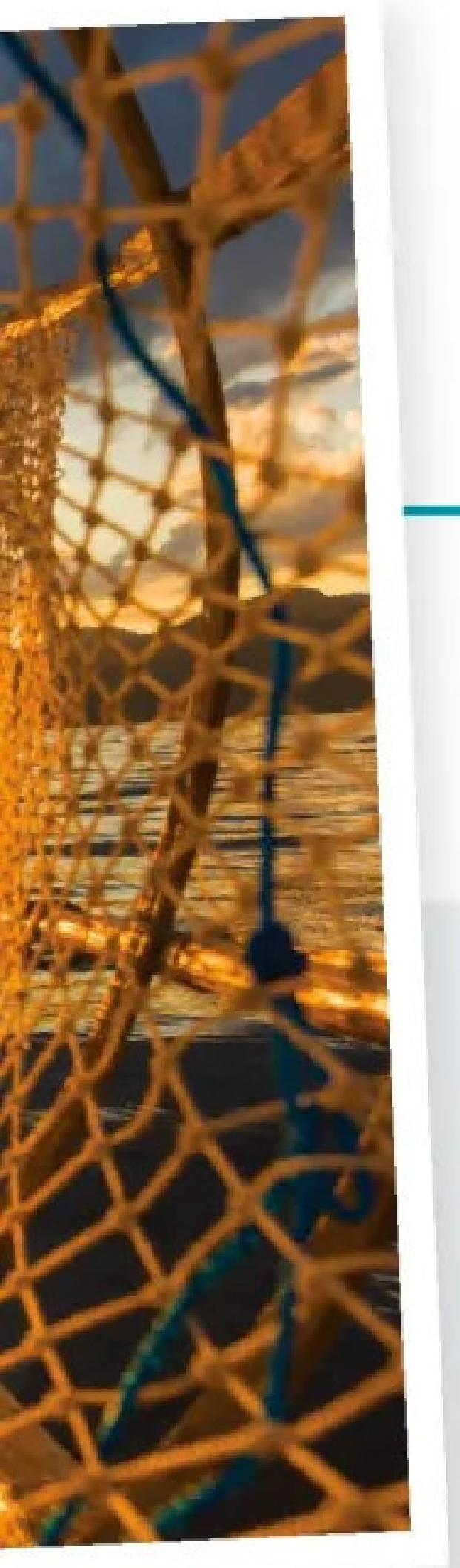
Other things that affect depth of field are focal length and subject distance. A wide-angle lens will have a lot more depth of field than a telephoto, and shooting from a distance (landscape) gives a much wider depth of field than shooting up close (macro).



Focus stacking

There will be times when you won't be able to use an aperture small enough to get the correct depth of field for the scene. If this is the case, you can use focus stacking – taking two or more pictures at different focus settings and merging them together. The D850 has a focus stacking mode built in, but you can also focus stack manually with any camera.

If you are photographing through a window, such as this shot in Essaouira Harbour in Morocco, then it is easy to stack the focus. With the camera set to AF-C, point the centre focus point at the frame, focus and then hold the focus lock button. Then recompose the picture. The centre focus will now be over the scene through the window, but the focus will be locked on the frame. Take a picture, then, without moving the camera, release the focus lock, so the camera instantly refocuses on the background. Quickly take another shot, and the two can be pasted together in Photoshop.



Increasing the ISO

Most people will only think of increasing the ISO to avoid camera shake, but you can also increase the ISO by a couple of stops, just to allow yourself an extra couple of stops of aperture for a broader depth of field.

This is one of the reasons why I try to never use Auto ISO. This will only tend to kick in to avoid camera shake, yet there are other reasons for increasing the ISO.

Modern Nikons have such good high ISO performance that increasing the ISO from 100 to 400 will have almost no effect on the quality of the image; but two stops of aperture can have a profound affect on the depth of field that you're using.

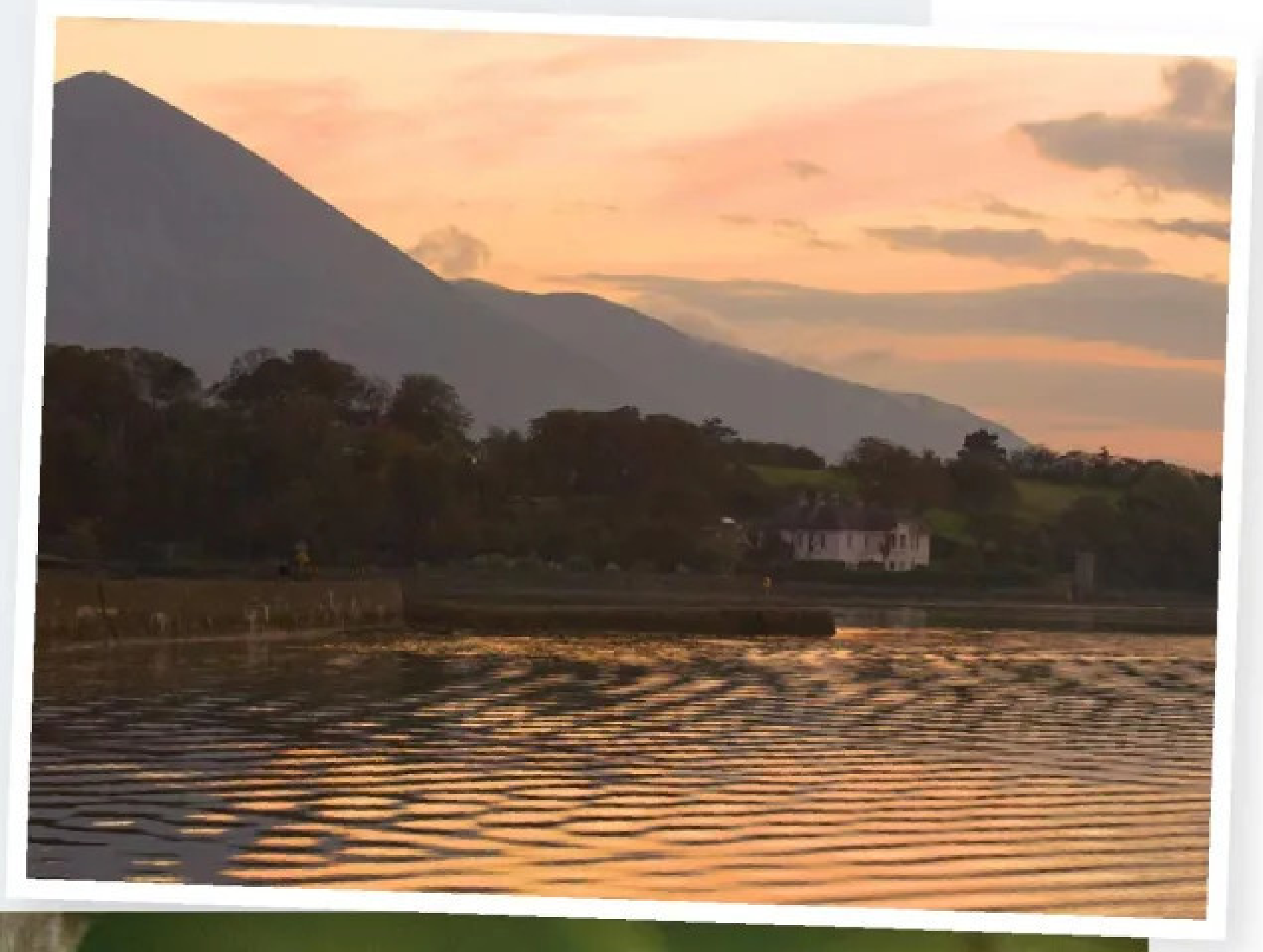
Taking portraits

Similarly, if you're shooting two people but you can't get both of them adequately in focus because the shallow depth of field is too shallow, then try changing your position to give one of them far more prominence in the frame than the other. This person will be the one that you have chosen to focus on, while the other one will drop markedly out of focus. It is preferable to have the secondary person in the frame completely soft, rather than almost sharp.

Maximise depth of field

To maximise the depth of field, you should focus one third of the way into the scene, as the zone of the depth of field extends twice as far behind the point of focus as it does in front.

Conventional wisdom says you should stick to between f8 and f11 for the best shots, as sharpness drops off after f11 due to light diffraction at smaller apertures (this effect is more obvious with a crop-sensor camera). While true, it's preferable to a lack of sharpness due to using a depth of field that is too narrow. A good work-around is to shoot the same scene at f11, f16 and f22, and pick the first of shot that has enough depth of field.



Working with the angles

If you can't select a small enough aperture to get the whole subject or subjects in focus, try changing your angle slightly. If more of the scene in front of you falls in the same plane, then more of it will be within the depth of field, and will be in focus.

This is important if you're shooting macro, as very close up pictures can have just a few millimetres of depth of field. You'll probably struggle with a macro lens too. You can focus stack, but easier still is to change the angle, so more of the subject is naturally in focus.

Gear issues & Post-production

The most important gear you'll be using is your eyes, but knowing how to utilise your camera and your post-production options is important, too…

Invest in the kit

In the drive for sharper images, you have to accept that quality will cost. There is a reason why most kit lenses are virtually given away with a camera body! They will never be as sharp as a more expensive (and heavy) professional lens. Be realistic about the level of sharpness that you will be able to achieve with the kit that you can afford in the beginning.

It used to be that the only way to get top-quality optics was to stick to the manufacturer's lenses; these days, though, some of the sharpest lenses are from third-party manufacturers. Notably the Sigma Art range offers incredibly sharp lenses for competitively keen prices.

Lr
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Navigator
GgSar-sD0228.tif
Histogram
Quick Develop
Keywording
Keyword List
Metadata
Comments
Import…
Export…

Regularly edit images

Always edit your photos as soon as possible; by doing so you can pick up potential problems and do something about them. When I'm away on a trip, I will try to edit pictures every night. This allows me to isolate whether a camera body or lens might have an issue. If you think there is an issue with kit, then a good way to test it is to shoot a brick wall. View these on a computer and check focus. If you have two bodies, and there is a problem with two different lenses on only one body, then it might have had a knock and need a service. Similarly, if a lens is showing issues on different camera bodies, then the lens might need attention.

Shoot Raw for sharpest shots

To get the sharpest pictures, shoot Raw and you will get the most sharpness out of your camera sensor. If you shoot JPEGs, then depending on the amount of compression, you can lose some degree of detail when you take the picture. If you process your picture on a computer, then details can be lost each time the image is saved. This will especially be the case in the dark and shadow areas of the image. Shooting Raw also allows you to apply input sharpening at the processing stage, as opposed to applying it in camera. If you are shooting Raw, make sure you have sharpening switched on in camera, as this is only applied to the image preview, and any settings will be overwritten when you import the images into your processing software. Using the image preview on the back of the camera makes it easy to check focus by zooming.

Quality filters

A UV filter can protect the lens; they are more resistant to cleaning, and also much easier and cheaper to replace than the front element of a lens. But there is no point in buying a quality lens and then using a cheap filter on it. This can drastically reduce the sharpness of your lens and, in some cases, can even blur the image. If you are shooting at altitude then a UV filter can reduce excess UV light, and can increase sharpness. A polarising filter can have a more pronounced effect if you are at high altitude and shooting in mountains. Always use a lens hood on your lens. Not only will it protect it from knocks and dirt, it can reduce flare and reflections on the lens's elements, increasing clarity – especially if you are shooting into the light. You should keep lenses and filters clean, as dust and smudges can increase flare and decrease sharpness.

Using the best Lightroom sharpening options

Many people confuse image sharpening with the mythical deblur feature I mentioned earlier. Image sharpening won't make an out-of-focus image sharp; it is there to compensate for the softening effect of the digital process. Most cameras have an anti-aliasing filter over the sensor to prevent moire interference effects. When you process the image, a touch of image sharpening (denominated as 'Input Sharpening' in the Adobe workflow) compensates.).

Unless you are prepared to learn a lot about sharpening, then the best advice, when using Lightroom, is to leave it on the default setting of 25. This reads the camera metadata and applies different values depending on the camera model.

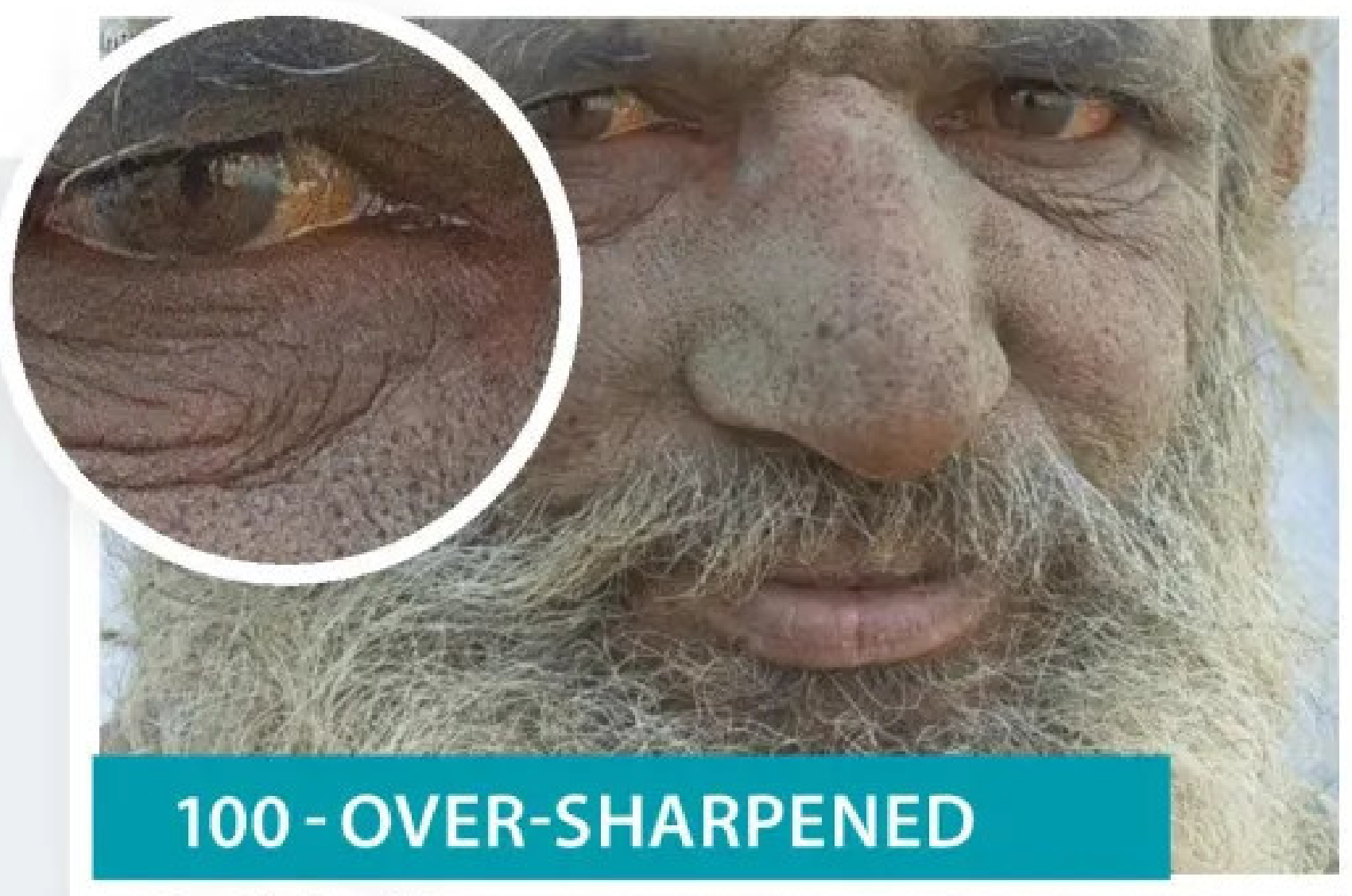
Depending on your tastes and equipment quality, some people advocate increasing this to 50. No matter what you do, there are four options to help with sharpness.

Amount: the degree of sharpening applied. I tend not to increase this unless I'm also applying noise reduction. If you are using cheap lenses, or a narrow aperture, you might need to increase this to 50

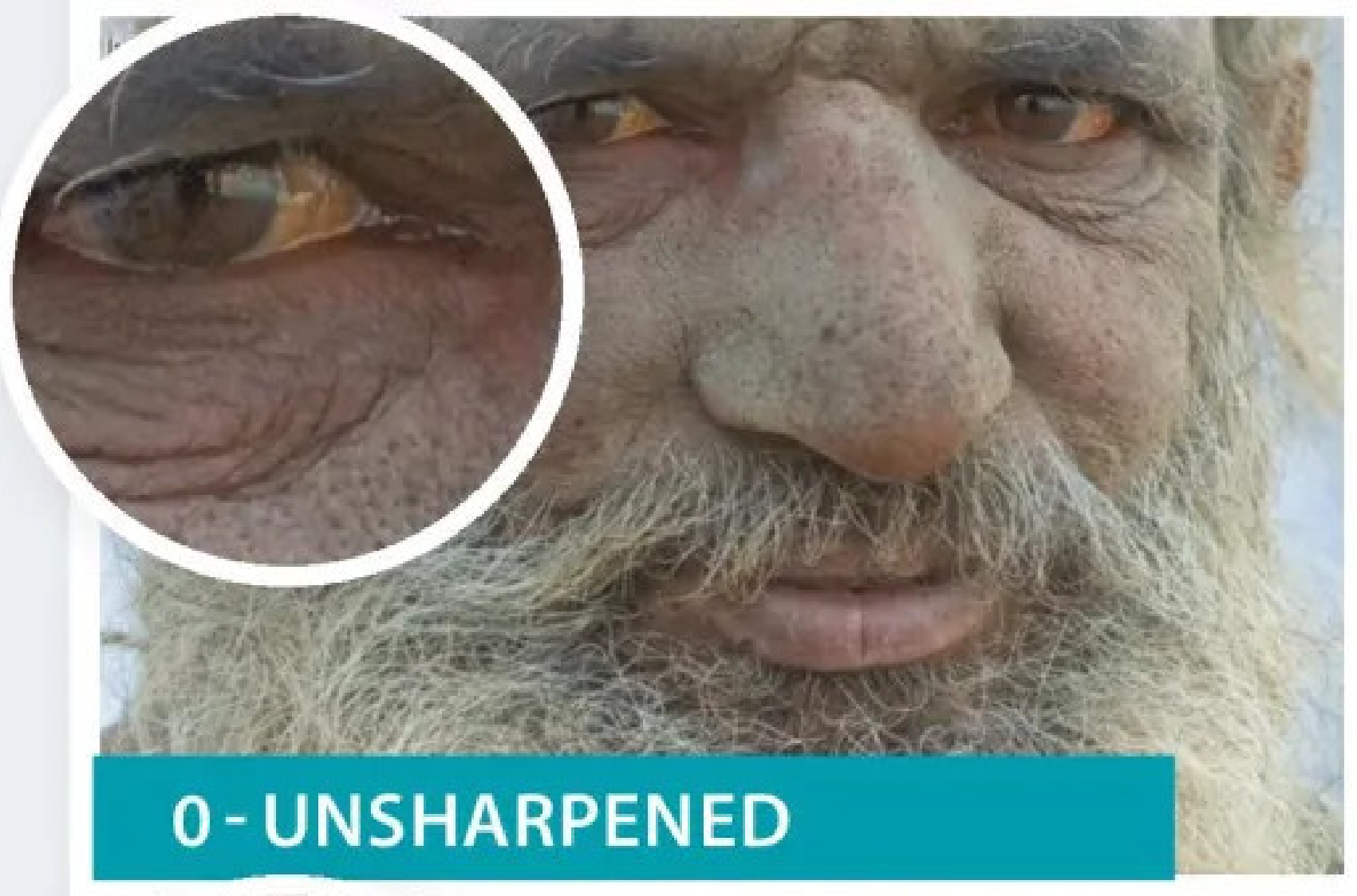
Radius: the number of pixels around the edges that are sharpened. The greater the radius the greater the appearance of the sharpening, but increasing this setting can cause a halo effect.

Detail: determines if details, such as individual hairs, are sharpened. Higher numbers mean sharpening is applied to smaller details – this can accentuate noise.

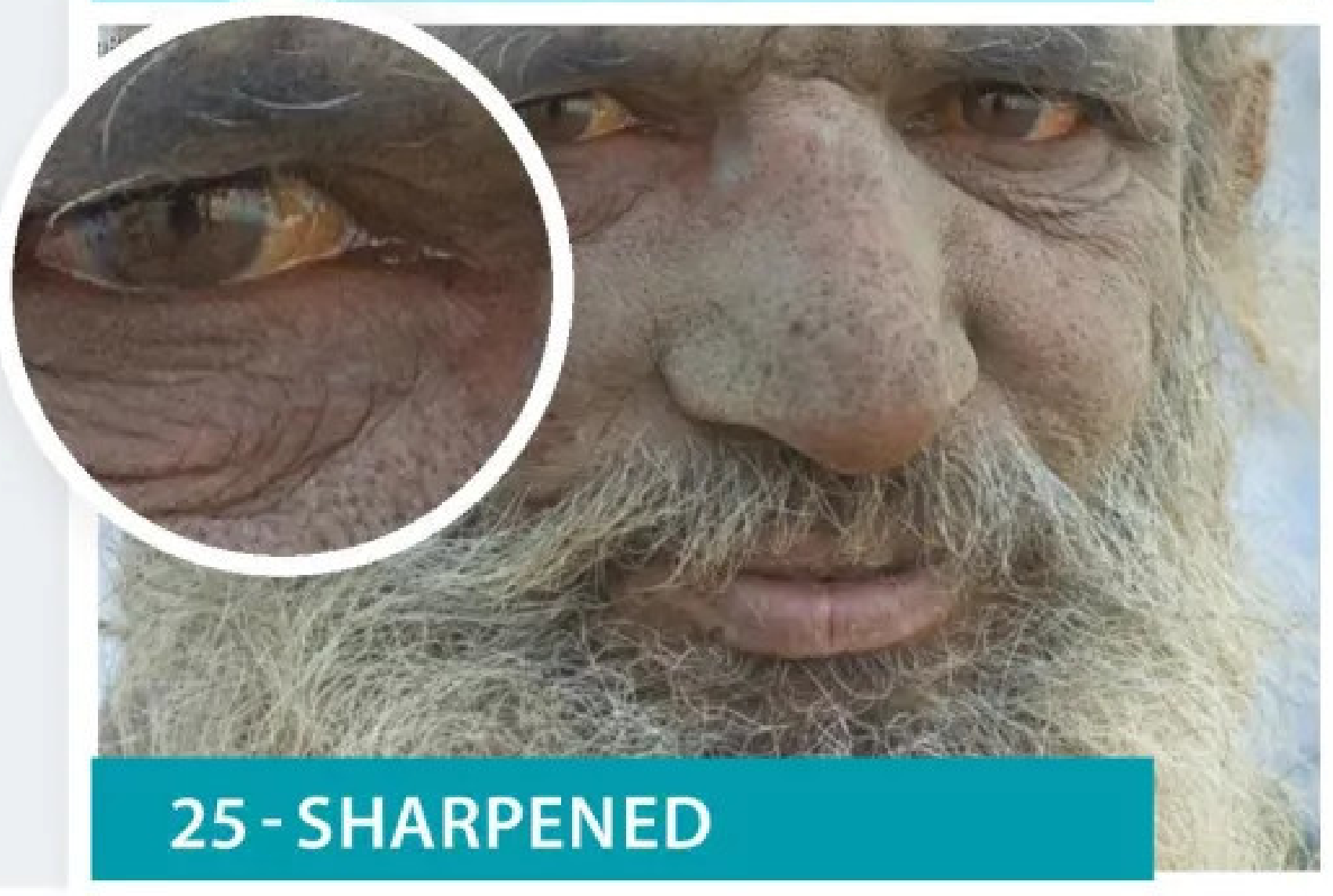
Masking: prevents solid areas of tone from being sharpened. Helps to reduce noise in areas without much detail when increasing the sharpening amount.



100 - OVER-SHARPENED



0 - UNSHARPENED



25 - SHARPENED

Expert technique

Edit your work

I am a massive believer in editing your work, and deleting shots that don't make the grade. If you just go through a folder of images and pick out the best, you won't learn much about your technique. Take the time to go through all of your shots, checking sharpness and focus at 1:1. You will be able to work out whether you have any underlying issues with a particular lens or camera, or whether you need to work on camera shake, depth of field or accurate focus.

In Adobe Lightroom, you can check the focus of each image by zooming to 1:1 (although if you are using an Apple Retina display or other high-resolution screen, you might need to zoom to 2:1 to check the image sharpness).

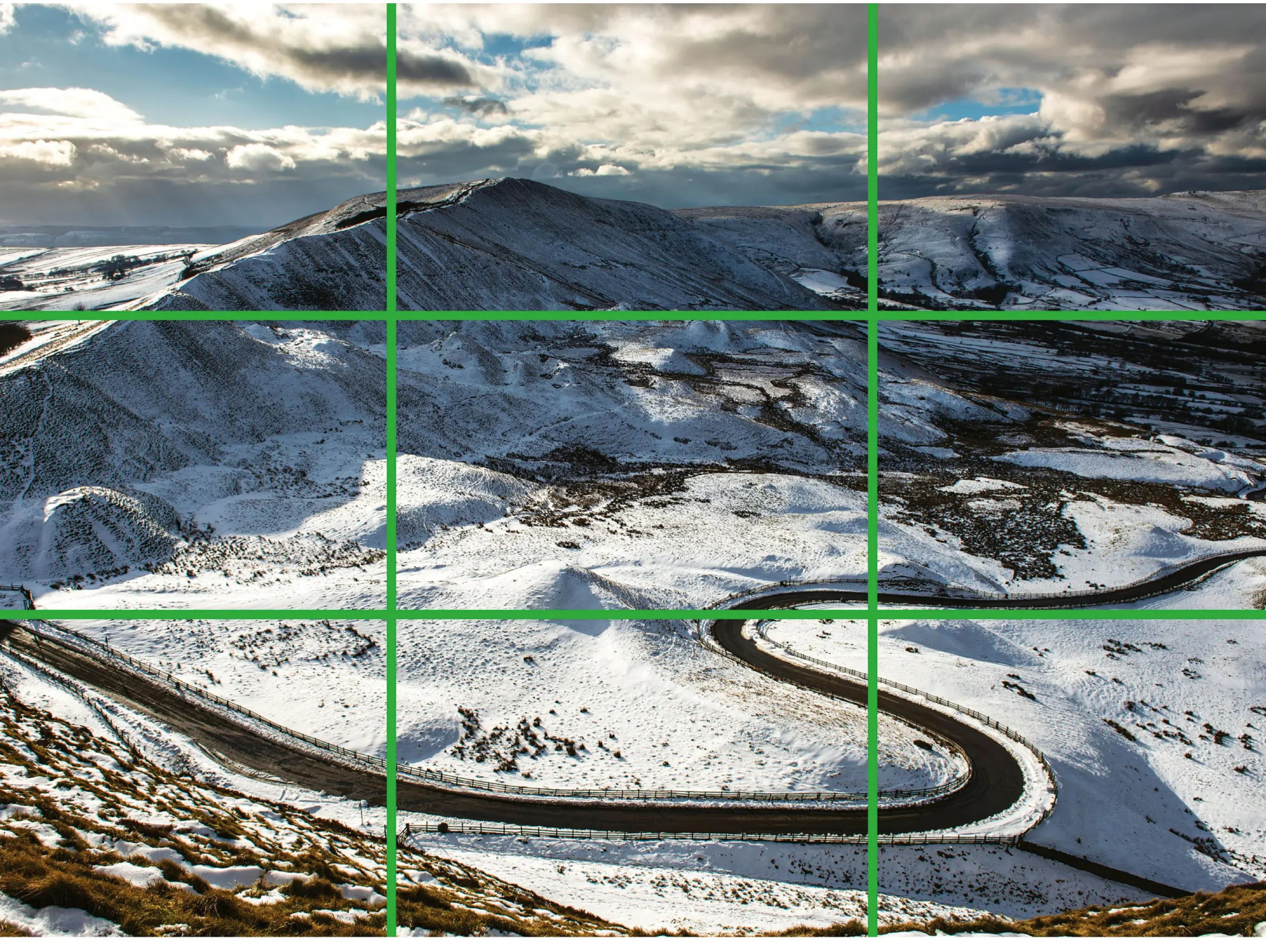
If you have a slower computer, then there can be some delay as Lightroom creates a full-sized preview when you zoom. You can avoid this by building full-sized previews in advance. Select Library>Previews>Build 1:1 Previews and Lightroom will carry on whilst you do something else. You can also get Lightroom to build 1:1 previews on import, making for a handy shortcut. When you edit your pictures, overlay the metadata, so you can instantly see the picture settings. This will help you to deduce the cause of any issues. If there is a lack of focus, check if it is with a particular camera body or lens. If there is camera shake, check the shutter speed and whether you should have used a higher ISO. If there is not enough depth of field, see what aperture was used. This way, you can always be learning and improving your technique.

Classics of composition

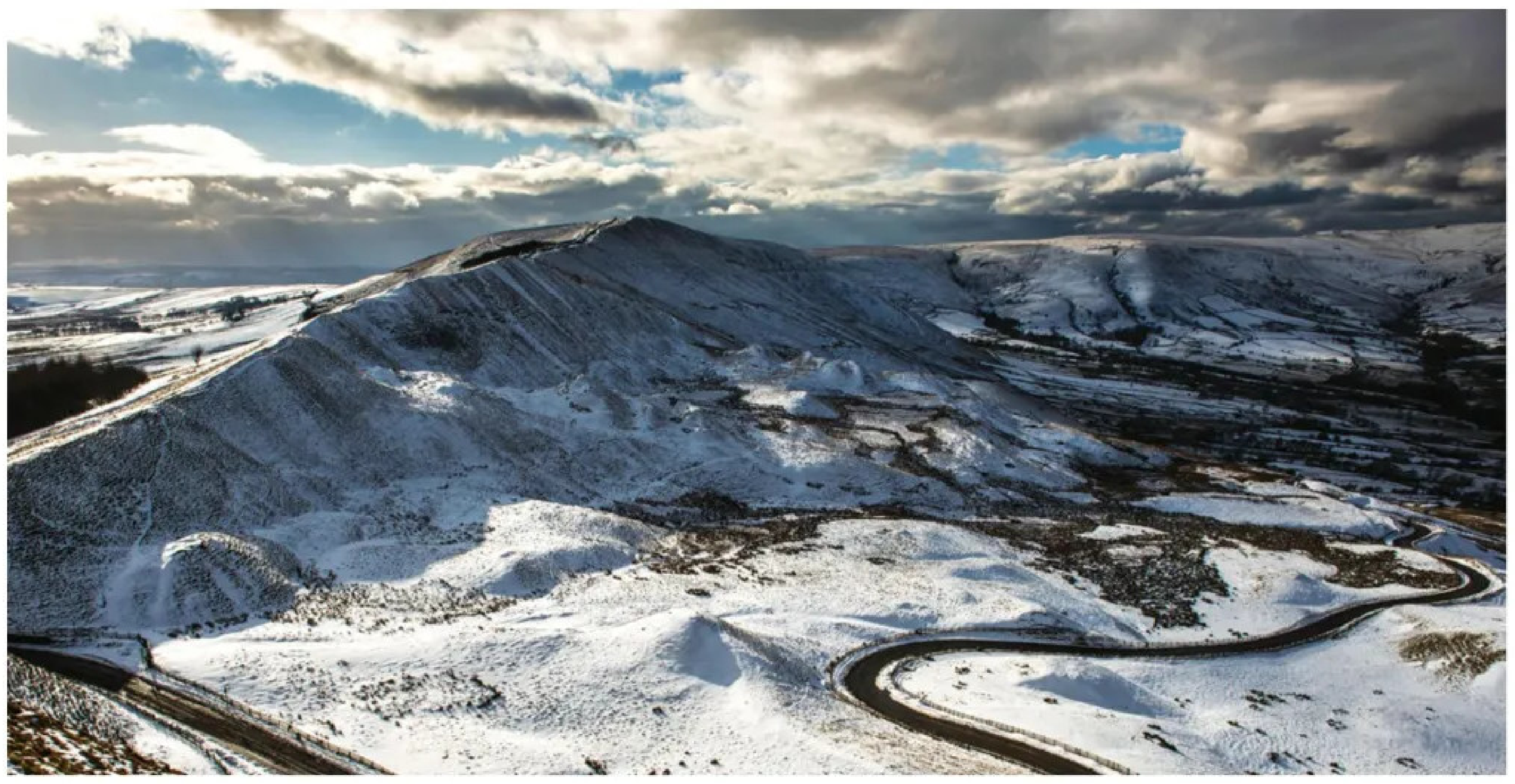
Discover how to shoot perfect pictures with your Nikon camera using our simple steps to composition

The first thing we generally want to learn about in photography is how to use the camera and lens. But after this, it's important to start growing artistically. So step away from the tedium of tech specs and instead learn about how to compose your images properly. A well-composed shot will make it easy for the viewer to identify a subject, it will retain their attention and might even tell them a story. So where do we start, what do we include and how can we use a few simple techniques to form the initial structure of an image? Follow these steps to anchor your shots before you experiment further.

> "Step away from the tedium of tech specs and instead learn about how to compose your images properly"

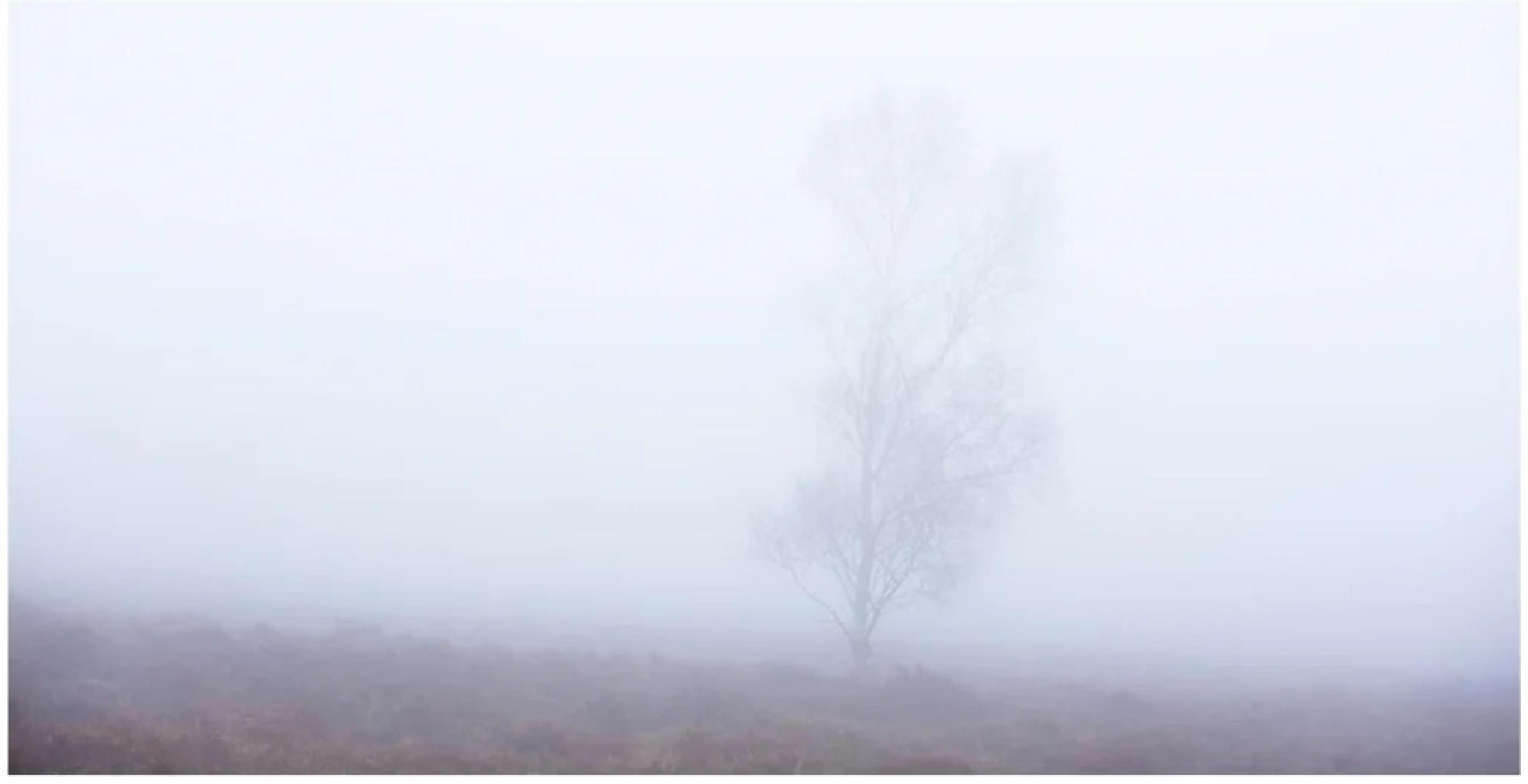


Step by step Back to compositional basics



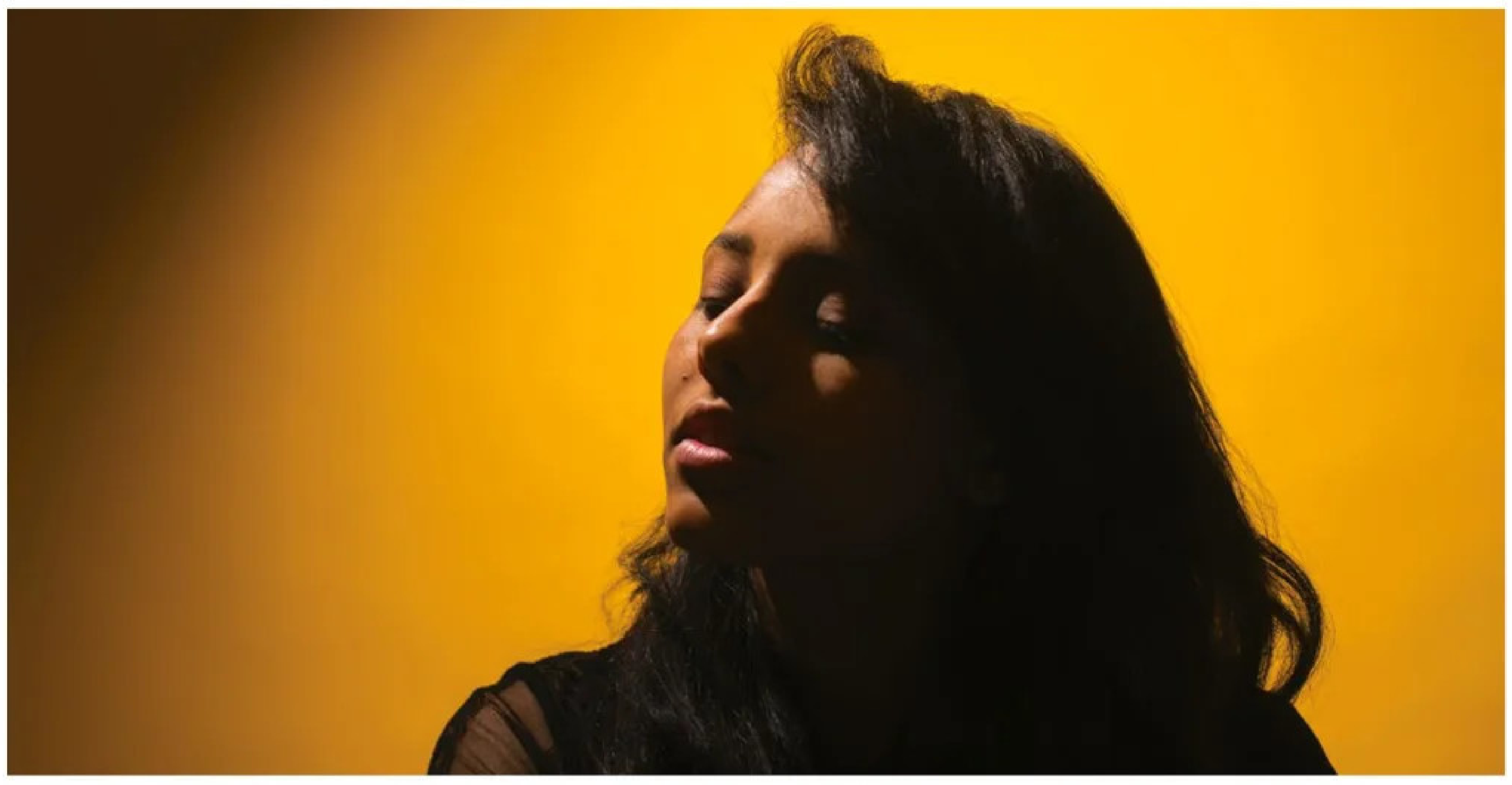
01 Leading lines

Look for lines that can lead the viewers eye through your image. You want viewers to spend as much time as possible looking at your photo. Here the road winds in an S-shape through the centre of the frame, guiding the viewer's eyes along a path to help retain their attention.



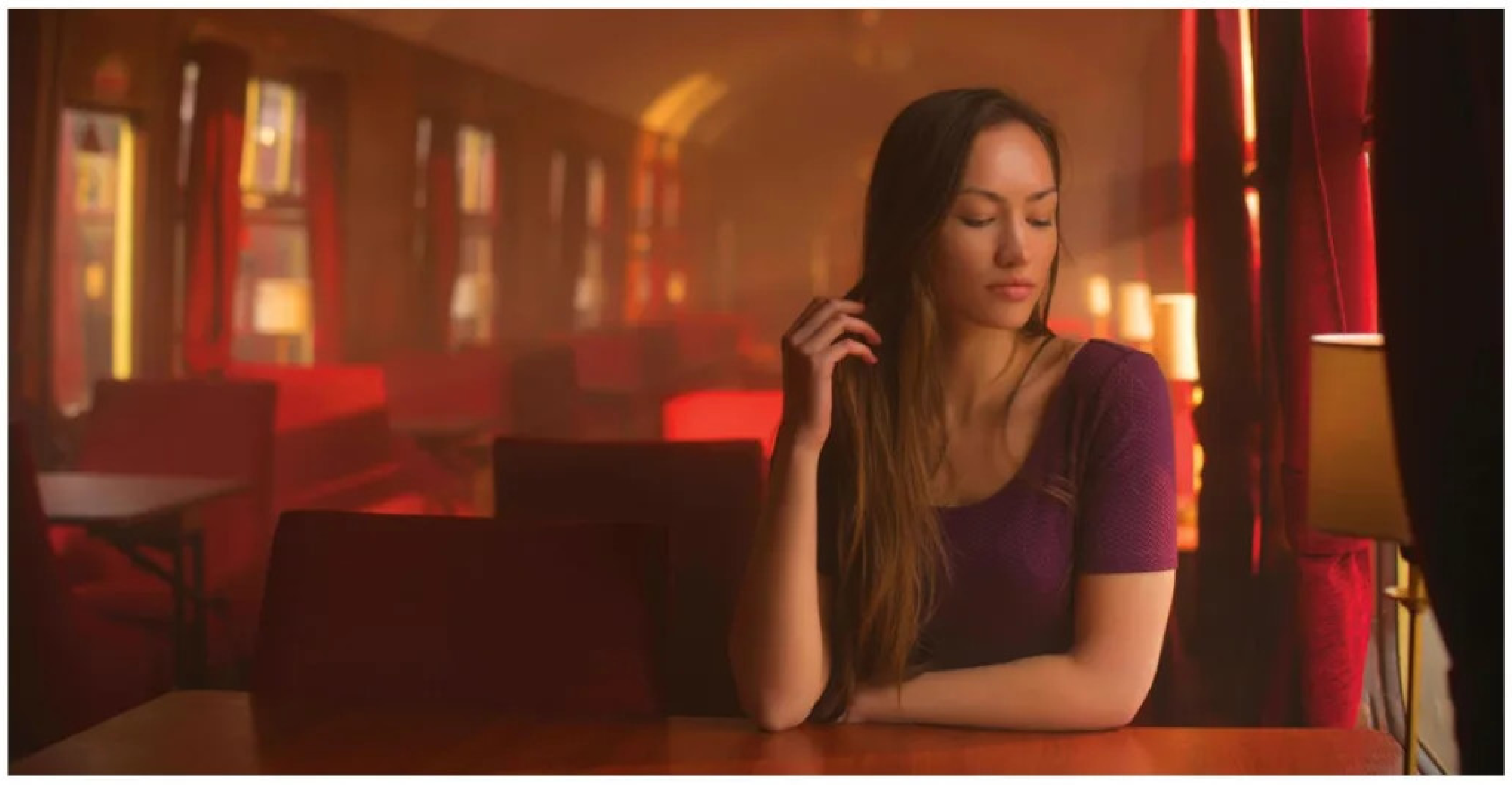
02 Rule of thirds

Perfect central composition is fine, and great for square crops. However, if you split your image into three, both vertically and horizontally, and place points of interest along those lines or at intersecting points, this off-centre composition usually looks more pleasing and balanced.



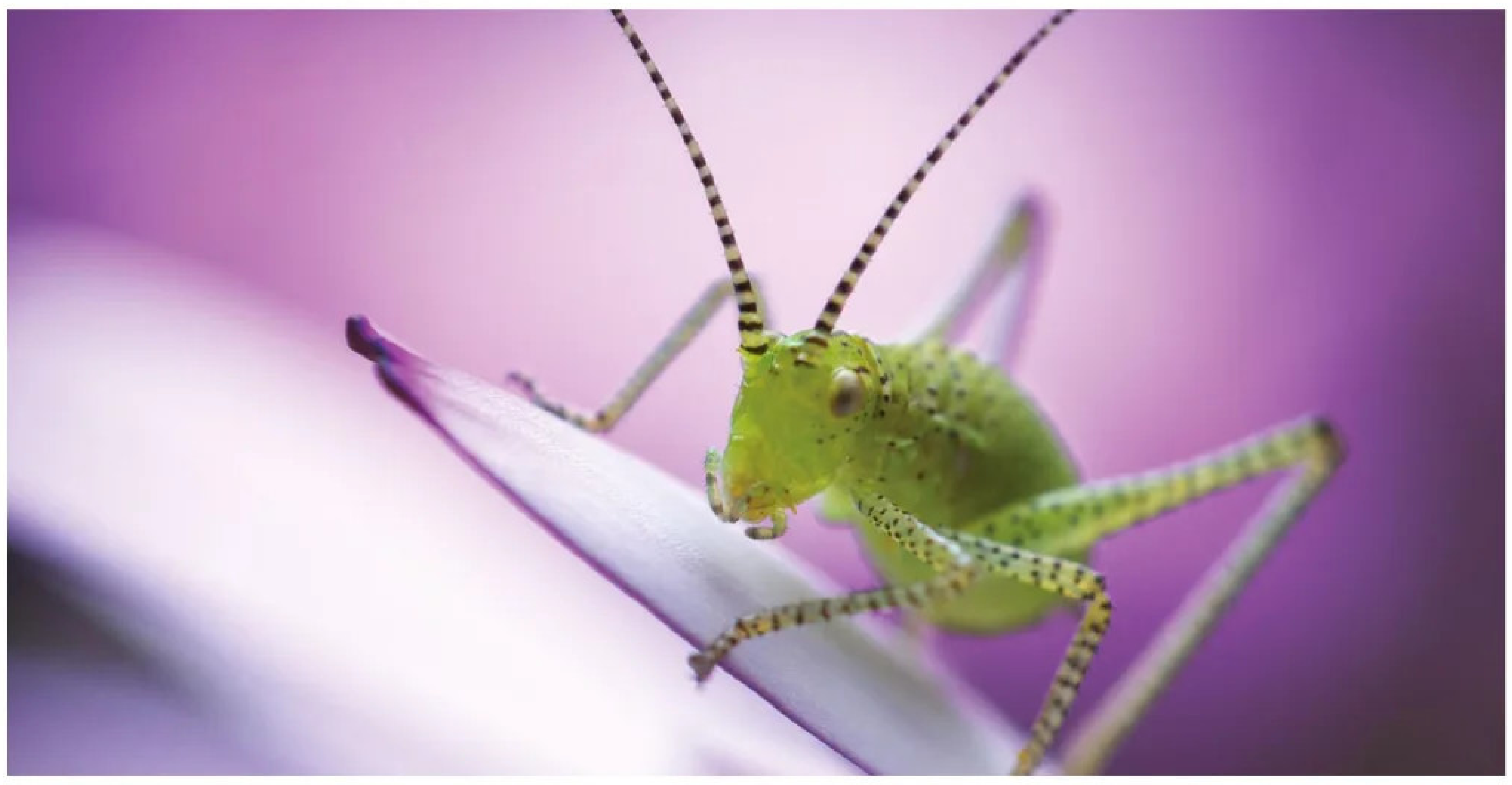
03 Portrait looking in

An old cinematography trick is leaving space in the frame in the direction a subject is looking. Here our model looks camera-left, so we leave space on that side. It feels more natural because we instinctively look where we're going and leaving space mimics this pattern of behaviour.



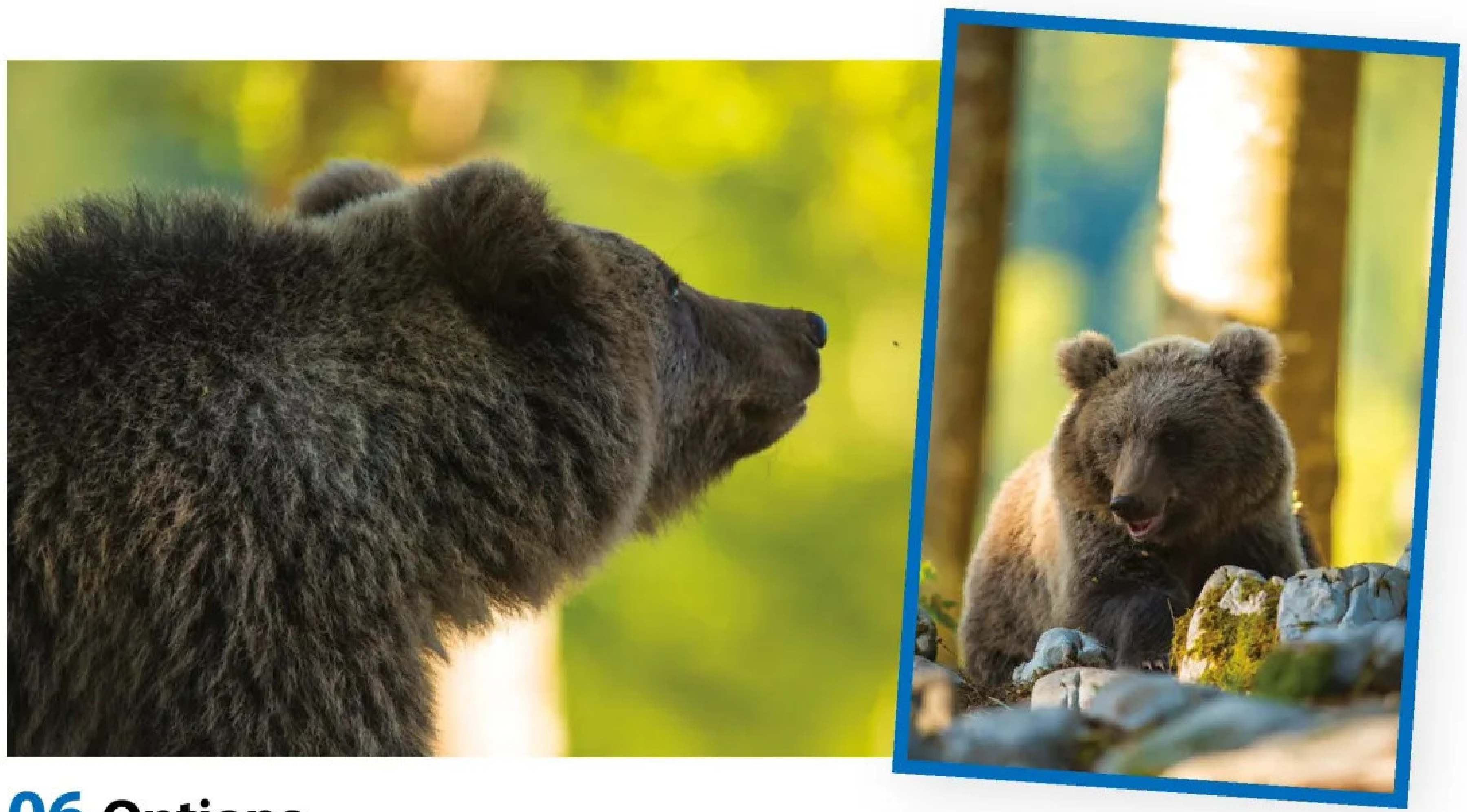
04 Portrait looking out

Having a subject look out of frame can work well, too. Here, a vintage train carriage provides an interesting backdrop, so the backdrop and subject are both equally important in the shot. It also invites the viewer to question what the subject is looking at.



05 Macro crop

Don't be afraid to fill the frame with your subject. In macro photography the depth of field is so shallow, the background is indecipherable. So by filling the frame with the background, it makes us feel part of the scene. Get close by cropping off unnecessary bits.



06 Options

Don't be satisfied with just one composition when you're shooting. Quickly move between vertical, horizontal and even angular orientations. We don't have to shoot 'portrait' orientation for portraits, for example. Once you have a shot lined up, experiment with it.

Hyperfocal distance focusing

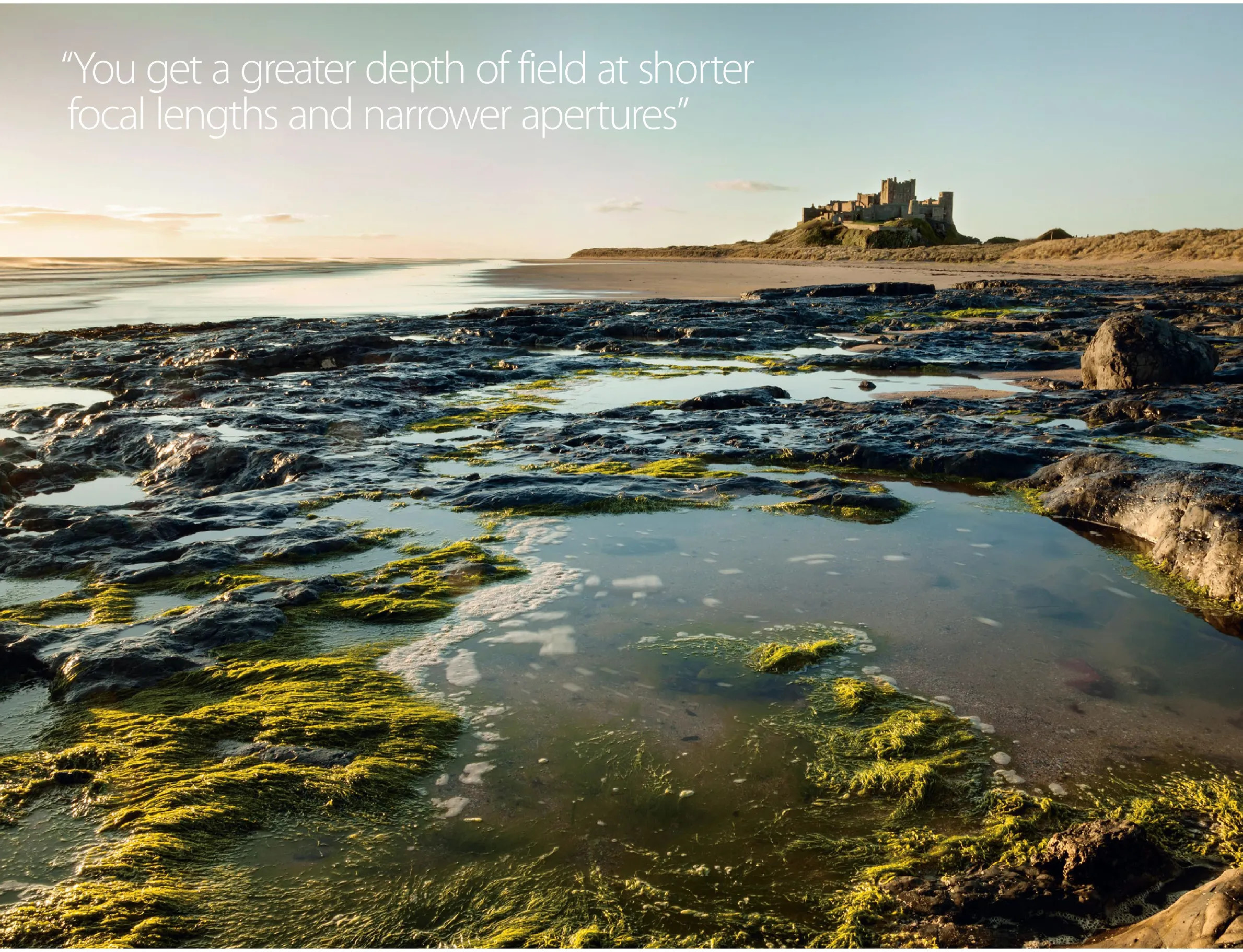
Discover how to shoot a landscape that's pin-sharp from the nearest detail to the distant horizon using a depth of field trick

Getting your landscapes sharp from front to back is tricky, but exploiting a phenomenon of depth of field can help you get a tack-sharp scene every time. Depth of field is the distance either side of the focal point that is 'acceptably sharp'; it's determined by aperture, focus distance and focal length, and – crucially – it extends twice as far beyond the focus point as it does in front.

The point of using hyperfocal distance focusing is to focus at the point at which the depth of field stretches to 'infinity' so that the maximum possible amount of the scene appears sharp.

You get a greater depth of field at shorter focal lengths and narrower apertures, so if you shoot at an aperture of f16 on a 16mm wide-angle lens with a full-frame Nikon, the hyperfocal distance is 50cm.

Focusing at this point will make everything from roughly half this distance (25cm) to infinity appear sharp. Before dialing in your lens's smallest aperture, though, you need to take 'diffraction' into account, as images actually become progressively softer at narrow apertures due to light being diffracted by the aperture blades.



"You get a greater depth of field at shorter focal lengths and narrower apertures"

Step by step Maximise depth of field in your landscapes

01 Keep it steady

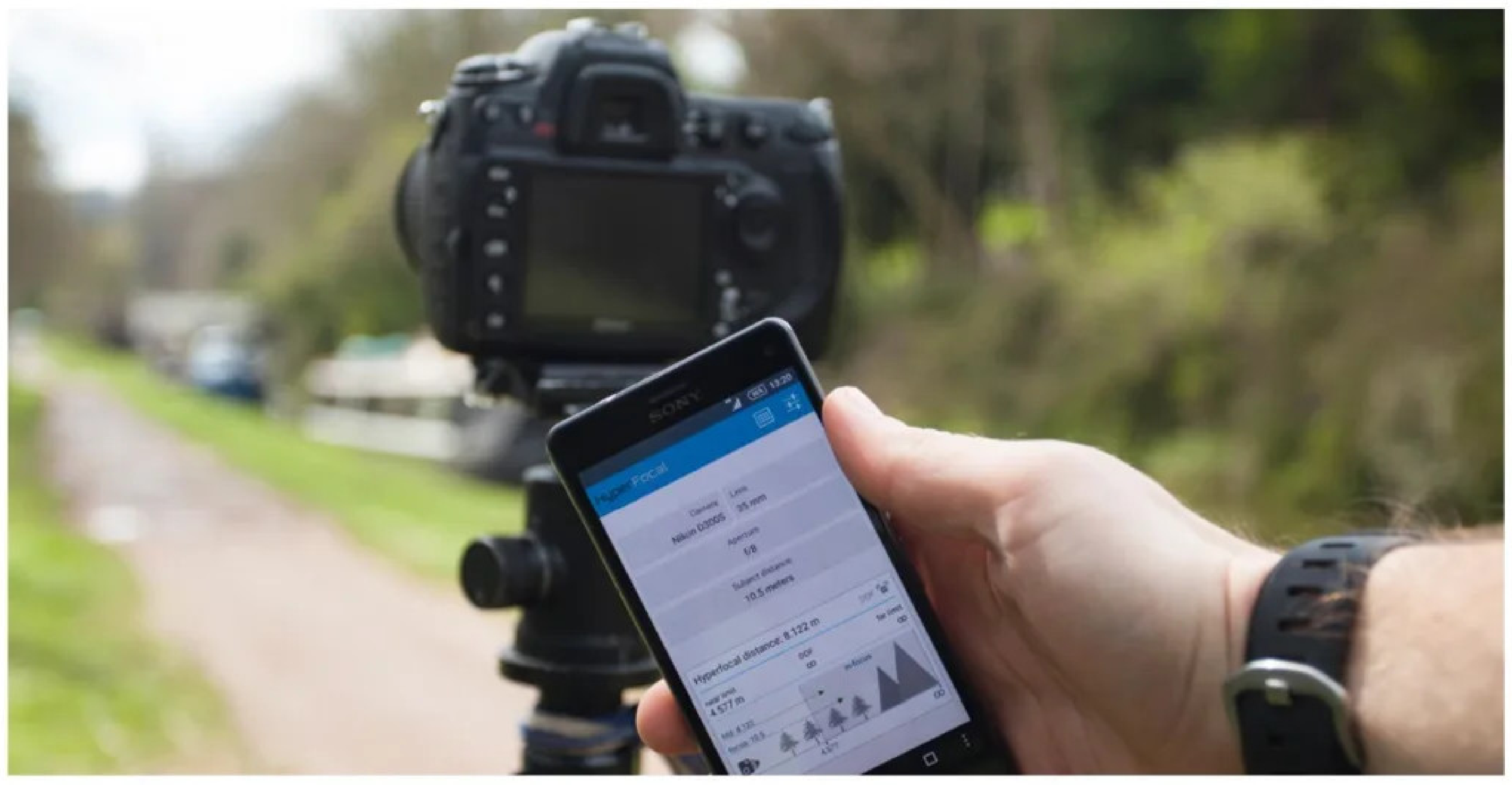
Shooting with a tripod doesn't just keep the camera rock-steady for long exposures, it also gives you more time to perfect your composition and focus precisely. Putting your camera on a tripod enables you to set the hyperfocal distance with care.

02 Stay in control

Swapping to Manual mode gives you complete control over your exposure, not just your aperture. Set the focal length to fit your scene – we shot at 35mm – and bear in mind that the wider the angle, the greater your depth of field will be.

03 Work it out

Use a hyperfocal distance app or our tables (see page 80 for more on both) to look up your focal length (35mm in our case) and desired aperture. Shooting at f8 on our full-frame Nikon gives us a hyperfocal distance of 8.122 metres.



04 Measure it out

Everything from around half the hyperfocal distance (in our case, the hyperfocal distance is 8.122 metres, so that's 4.577 metres) to the horizon will be sharp. Unless you're carrying measuring tape, you'll need to judge the hyperfocal distance by eye, or roughly pace it out.

05 Focus with care

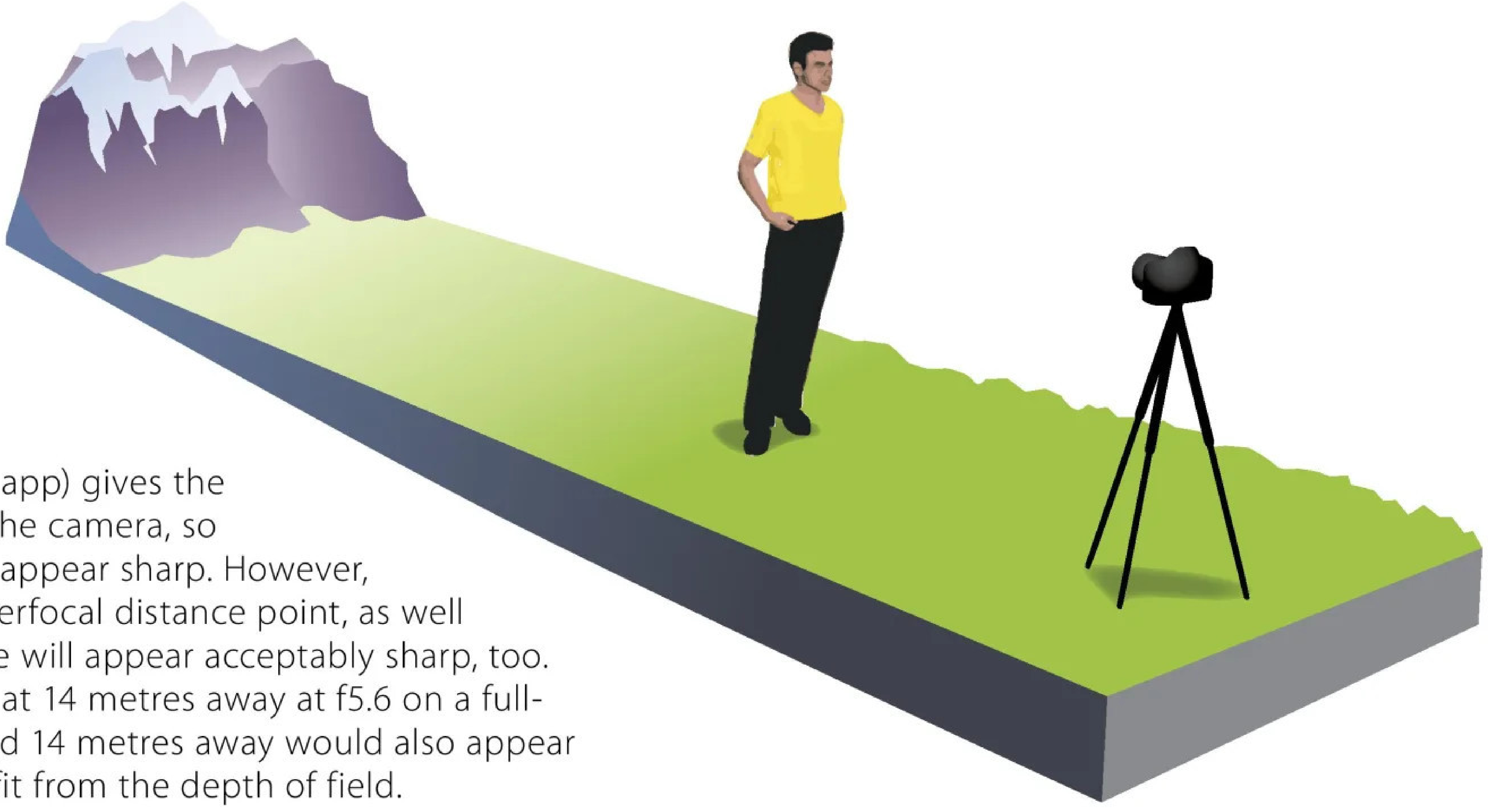
Use autofocus to focus on a point at the hyperfocal distance, then switch to manual focus to lock the focus. If there's nothing at the appropriate distance for your Nikon's autofocus to pick up on, try focusing on yourself with a remote release.

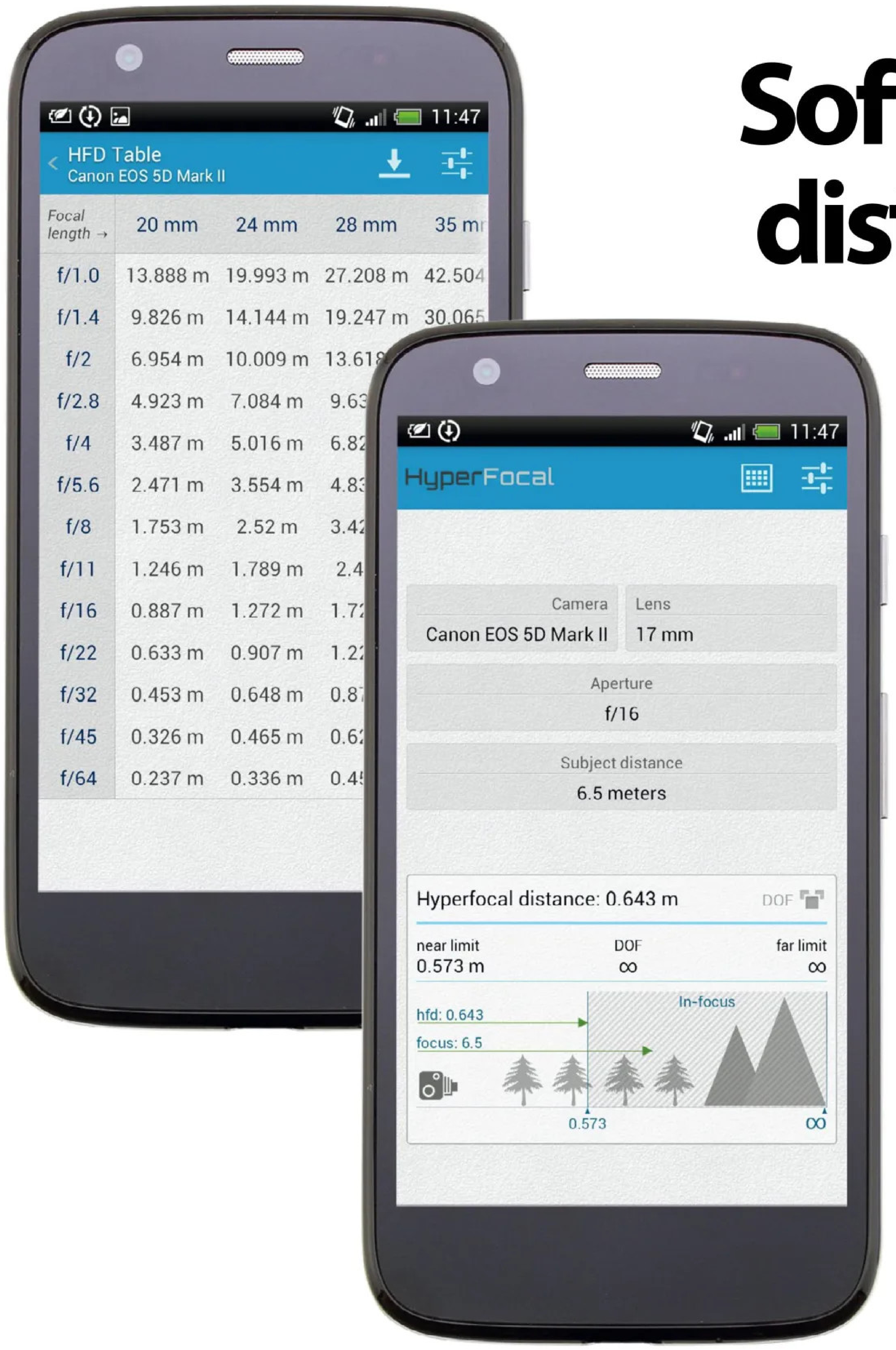
06 Beat the shakes

You'll need to avoid touching the camera in order to prevent camera shake, so use a remote release (or your Nikon's two-second self-timer). Disable image stabilisation, too, as this can cause shake when shooting on a tripod, and set mirror-up.

Do things by halves

Using our hyperfocal charts (or a smartphone app) gives the distance to focus at from the focal plane of the camera, so that everything between it and 'infinity' will appear sharp. However, because depth of field stretches in front of the hyperfocal distance point, as well as beyond it, objects up to around half this distance will appear acceptably sharp, too. So if you were to use a 50mm focal length focused at 14 metres away at f5.6 on a full-frame camera, a subject between roughly seven and 14 metres away would also appear acceptably sharp – enabling you to get more benefit from the depth of field.





HFD Table
Canon EOS 5D Mark II

Focal length →	20 mm	24 mm	28 mm	35 m
f/1.0	13.888 m	19.993 m	27.208 m	42.504
f/1.4	9.826 m	14.144 m	19.247 m	30.065
f/2	6.954 m	10.009 m	13.61	
f/2.8	4.923 m	7.084 m	9.63	
f/4	3.487 m	5.016 m	6.8	
f/5.6	2.471 m	3.554 m	4.8	
f/8	1.753 m	2.52 m	3.4	
f/11	1.246 m	1.789 m	2.4	
f/16	0.887 m	1.272 m	1.7	
f/22	0.633 m	0.907 m	1.2	
f/32	0.453 m	0.648 m	0.8	
f/45	0.326 m	0.465 m	0.6	
f/64	0.237 m	0.336 m	0.4	

Camera: Canon EOS 5D Mark II
Lens: 17 mm
Aperture: f/16
Subject distance: 6.5 meters

Hyperfocal distance: 0.643 m

near limit 0.573 m
DOF ∞
far limit ∞

Software hyperfocal distance calculators

You don't have to carry around charts and tables – your smartphone can do the job for you

There are plenty of smartphone apps that will calculate the hyperfocal distance for you on both iOS and Android – we used free app HyperFocalPro on Android, downloaded from Google Play, which we found simple and straightforward to use. You can input your camera model, focal length, aperture and the subject distance. With all of this information, the app generates a 2D diagram, showing the depth of field and the hyperfocal distance, for you to better understand the information. There is also a table view for the selected camera, and this can be simpler to use if you do not know the exact subject distance but want to estimate. The best thing about this app is that, once installed, it does not need an internet connection when out and about, making it useful for use in the field without racking up excessive data charges.

But is it acceptable?

A lens can only focus at one point at a time, and only objects at this exact distance will be precisely in focus. However, some of the area in front of and behind this will be of acceptable sharpness – where the degree that the image is defocused is negligible at a normal viewing distance. When shooting with a wide-angle lens and at a narrow aperture, the area of acceptable sharpness can stretch from just a few centimetres in front of the camera all the way to infinity.

Reading hyperfocal charts

It's complex, but we've done the maths so you don't have to…

Here are tables for both full-frame and APS-C sensors. Select your focal length along the top, and your aperture down the side, to see how far from the camera you should focus, in metres, for maximum sharpness all the way to the horizon. You'll notice that at very wide angles and narrow apertures, hyperfocal distance is much less than metre. For an interactive hyperfocal distance chart, visit the following link: **http://bit.ly/hypercalc**

To infinity and beyond

Infinity is the point beyond which everything appears at equal sharpness. It varies according to focal length, but can be as little as a few centimetres away on a wide-angle lens. When you focus at the hyperfocal distance, not only is everything from half this distance up to infinity acceptably sharp, so is everything beyond infinity.

FULL-FRAME (FX) SENSOR TABLE

	16mm	24mm	35mm	50mm	85mm	135mm	200mm
f2.8	2.9	6.4	13.7	27.9	80.6	203.4	446.4
f4	2	4.5	9.6	19.5	56.4	142.4	312.5
f5.6	1.4	3.2	6.8	14	40.3	101.7	223.2
f8	1	2.3	4.8	9.8	28.3	71.2	156.3
f11	0.7	1.6	3.5	7.1	20.5	51.8	113.6
f16	0.5	1.1	2.4	4.9	14.1	35.6	78.1
f22	0.4	0.8	1.7	3.6	10.3	25.9	56.8
f32	0.3	0.6	1.2	2.4	7.1	17.8	39.1

APS-C (DX) SENSOR TABLE

	16mm	24mm	35mm	50mm	85mm	135mm	200mm
f2.8	4.6	10.3	21.9	44.6	129	325.4	714.3
f4	3.2	7.2	15.3	31.3	90.3	227.8	500
f5.6	2.3	5.1	10.9	22.3	64.5	162.7	357.1
f8	1.6	3.6	7.7	15.6	45.2	113.9	250
f11	1.2	2.6	5.6	11.4	32.8	82.8	181.8
f16	0.8	1.8	3.8	7.8	22.6	57	125
f22	0.6	1.3	2.8	5.7	16.4	41.4	90.9
f32	0.4	0.9	1.9	3.9	11.3	28.5	62.5

Shoot wide open

Learn how to capture scenes creatively using a shallow depth of field

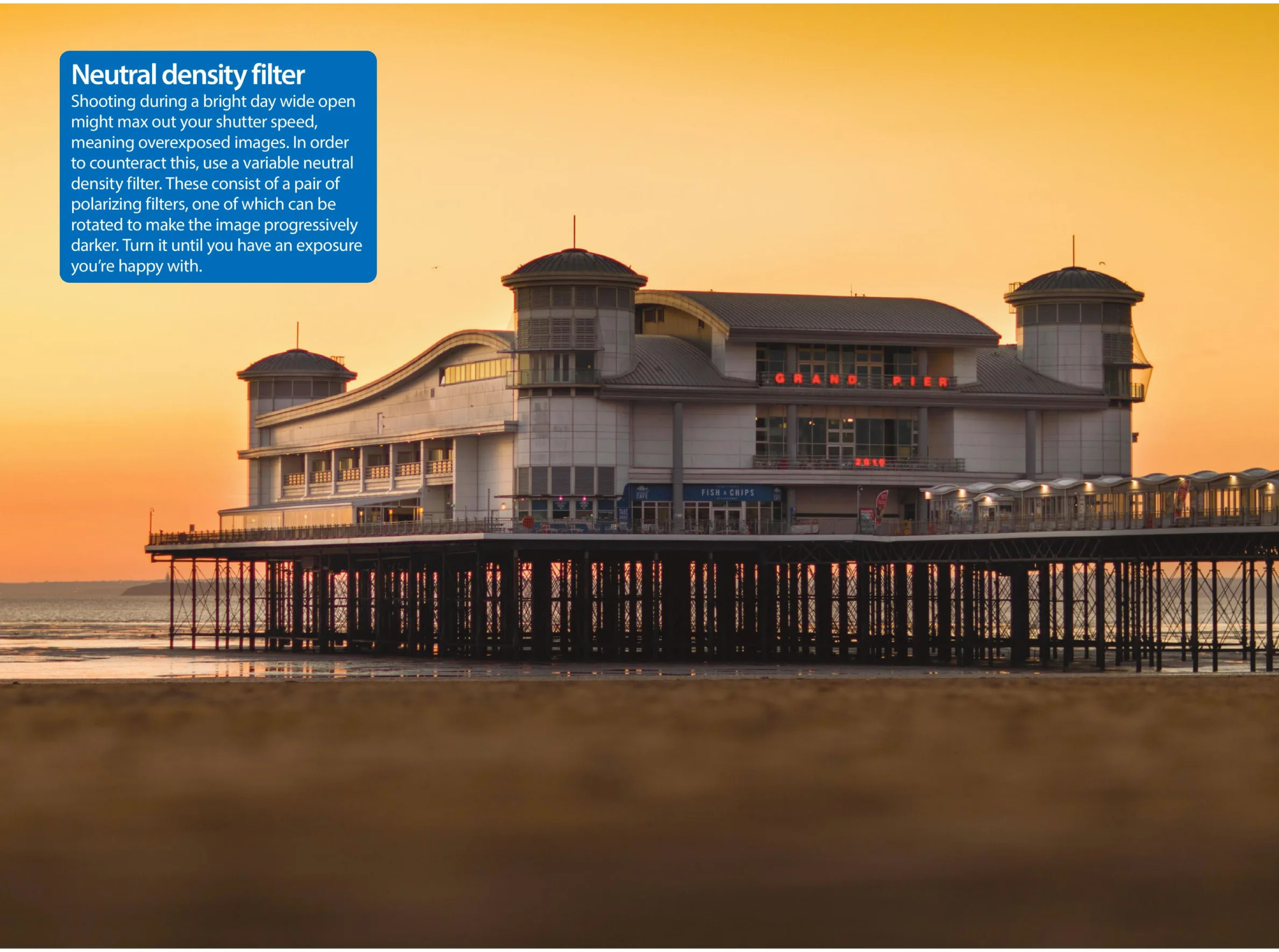
Typically, traditional coastal and landscape shots are usually taken with a wide-angle focal length and narrow aperture, such as 24mm and f16. This ensures you can capture a large part of the scene, and make sure that it's all perfectly sharp, from the foreground to the horizon.

However, in this project, we're going to show you how creative your scenic shots can look if you do the complete opposite. We're at Weston-super-Mare, just before sunset, to capture the Grand Pier in all its glory. We're using a fast 50mm f1.4 lens for this as we want to use the widest possible aperture to capture a very shallow depth of field, but any reasonably long lens with a wide aperture capability will work fine for this. The longer focal length and wider aperture value may initially seem counter-intuitive, but we can get creative to make it work in our favour.

> "The longer focal length and wider aperture may initially seem counter-intuitive, but we can get creative to make it work in our favour"

Neutral density filter

Shooting during a bright day wide open might max out your shutter speed, meaning overexposed images. In order to counteract this, use a variable neutral density filter. These consist of a pair of polarizing filters, one of which can be rotated to make the image progressively darker. Turn it until you have an exposure you're happy with.



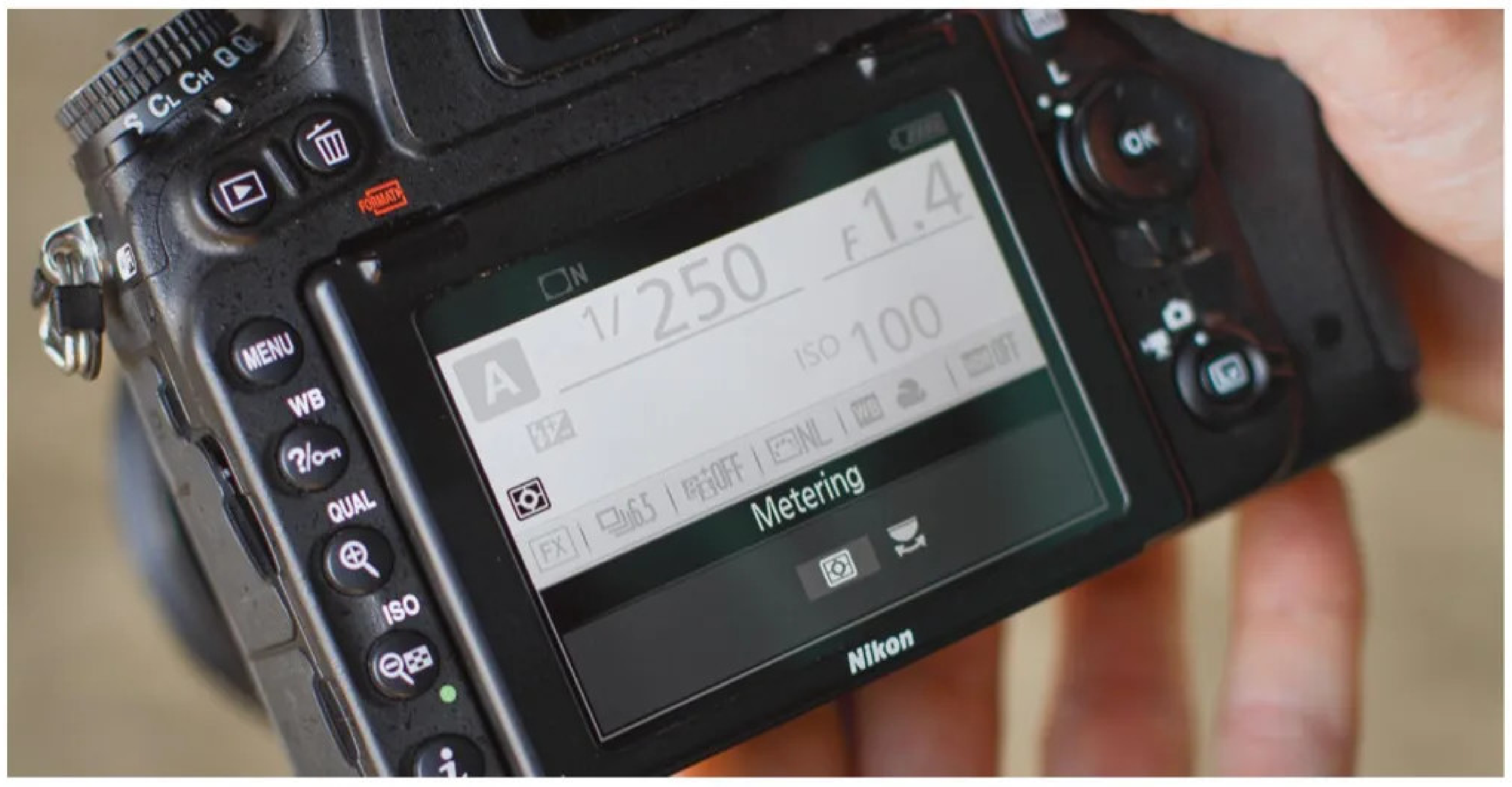
Step by step Capture landscapes with a shallow depth of field

01 Lens of choice

Using our 50mm f1.4 lens at its widest aperture we'll create a shallow plane of focus, so almost everything before and after our focus point will be nicely blurred. This helps make sure the pier really stands out, as the foreground and background elements are out of focus.

02 Set Aperture Priority mode

We're shooting in Aperture Priority mode. We've set the widest possible aperture of f1.4 and we've set a low ISO of 100 as the wide aperture should ensure a fast shutter speed. Our Nikon will then meter the frame and set a matching shutter speed for an average exposure.



03 Meter the scene

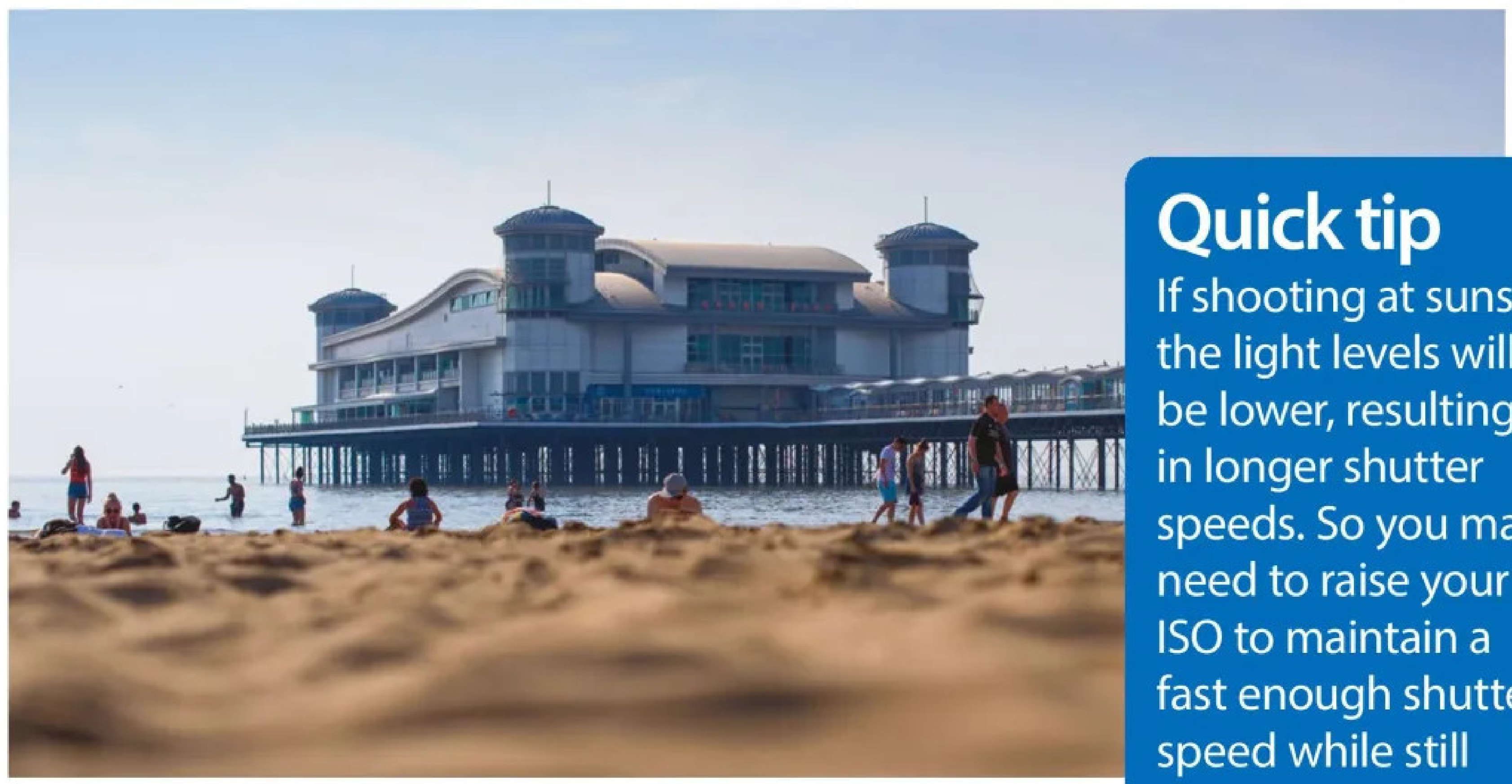
How the Nikon meters the scene will depend on the metering method engaged on the camera. Matrix metering mode is ideal here as we want to take a light reading of the entire scene, unlike Spot metering, which meters for only a small section at the centre of the frame.

04 No shake

The added bonus of shooting with a fast lens in daylight is that a wide aperture equals a fast shutter speed – so we don't need to bother with a tripod. Our shutter speed was as high as 1/2000 sec, which meant camera shake wouldn't be an issue when shooting handheld.

05 Lay down

When it comes to composition, getting as low to the ground as possible helps to reduce the amount of empty foreground in the shot, and what foreground there is will be rendered beautifully out of focus. Our camera was nearly touching the sand for this shot.



Quick tip
If shooting at sunset the light levels will be lower, resulting in longer shutter speeds. So you may need to raise your ISO to maintain a fast enough shutter speed while still shooting handheld.

06 Keep your distance

We've moved our focus point so that it's directly over the centre of the pier. At this distance, the focus plane is still large enough for the whole building to be sharp. But if we were shooting something closer, the focus plane would be radically reduced.

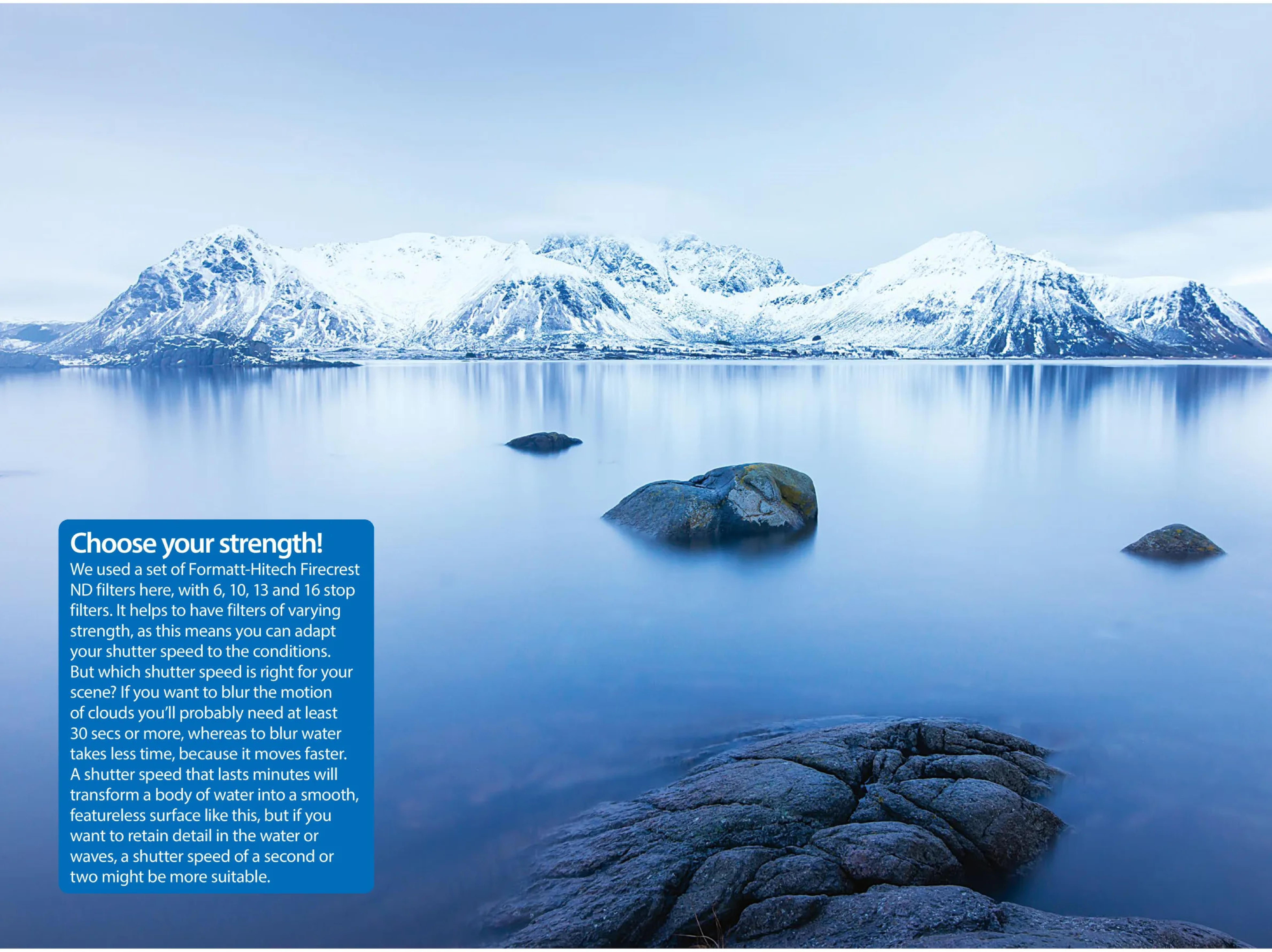
Master long exposures

Learn how to use neutral density filters to extend your exposure for beautiful blurred motion

A neutral density filter attaches to your lens and performs a simple function: it blocks the flow of light into your camera. There are a couple of reasons why we might want to do this.

Firstly, at times when we want a shallower depth of field, it allows us to use a wider aperture without having to adjust the shutter speed. Secondly – and this is the most common reason – we use them to extend our shutter speed in order to blur motion. By extending the shutter speed we can create beautiful blurred motion within our scenes. Blur can be a great mood-setter for all kinds of shots. For portraits it can help to create a sense of speed or motion. And for landscapes it can render clouds and water as smooth, silky surfaces. In this project, we'll show you how to use a strong ND filter to do just that. Getting set up for a long exposure like this is a step-by-step process, with a few essential techniques that we'll explain here. You'll also need the right kit. The two key things are a tripod and the ND filter. These come in varying strengths, from those that are only slightly opaque, to those that are so dense you can't even see through them.

We used a strong 10 stop filter here. Each stop of light doubles the shutter speed, so from our initial reading of 1/8 sec, we can go all the way to two minutes and eight seconds. Here's how it's done...



Choose your strength!

We used a set of Formatt-Hitech Firecrest ND filters here, with 6, 10, 13 and 16 stop filters. It helps to have filters of varying strength, as this means you can adapt your shutter speed to the conditions. But which shutter speed is right for your scene? If you want to blur the motion of clouds you'll probably need at least 30 secs or more, whereas to blur water takes less time, because it moves faster. A shutter speed that lasts minutes will transform a body of water into a smooth, featureless surface like this, but if you want to retain detail in the water or waves, a shutter speed of a second or two might be more suitable.

Step by step Shooting long exposures

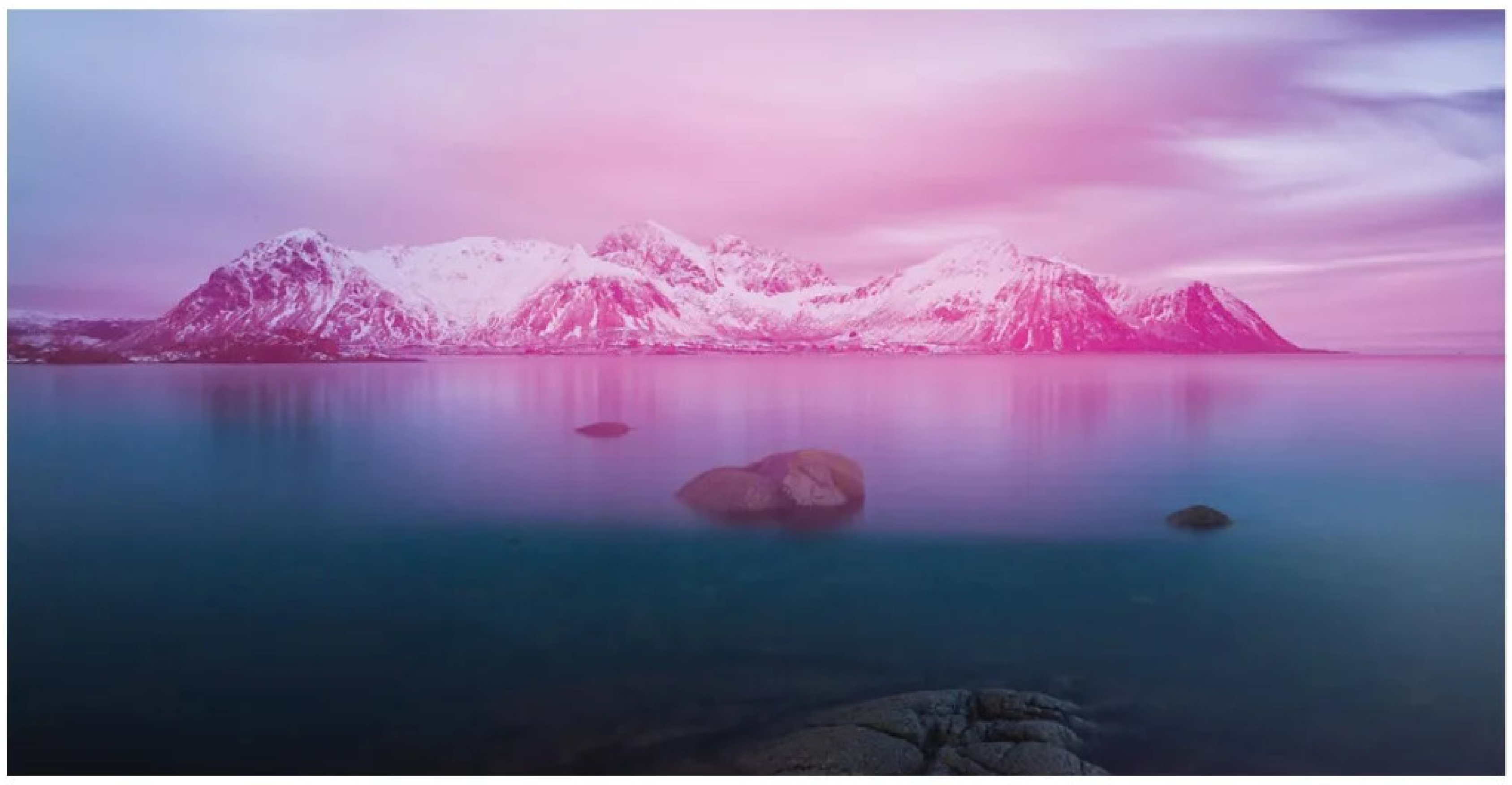
01 Take a test shot
Set your camera on a tripod and take a test shot without an ND filter. Make a note of the exposure settings. When you're happy with the composition and focus, switch your lens to manual focus. This was our test shot, taken in Aperture Priority mode at 1/8 sec, f8, ISO200.

02 Attach your ND filter
We're using a Formatt-Hitech 10-stop Firecrest filter here. Now we need to multiply our shutter speed by 10 stops, which gives us a new shutter speed of 128 secs – or just over two minutes. An exposure calculator phone app like PhotoPills comes in handy for working this out.

03 Adjust your exposure
Set manual mode and input the new exposure settings – for us, 2 mins 8 secs at f8, ISO100. Your Nikon has a max shutter speed of 30 secs. For longer exposures you need to use Bulb exposure mode, which means the shutter stays open as long as the button is depressed.

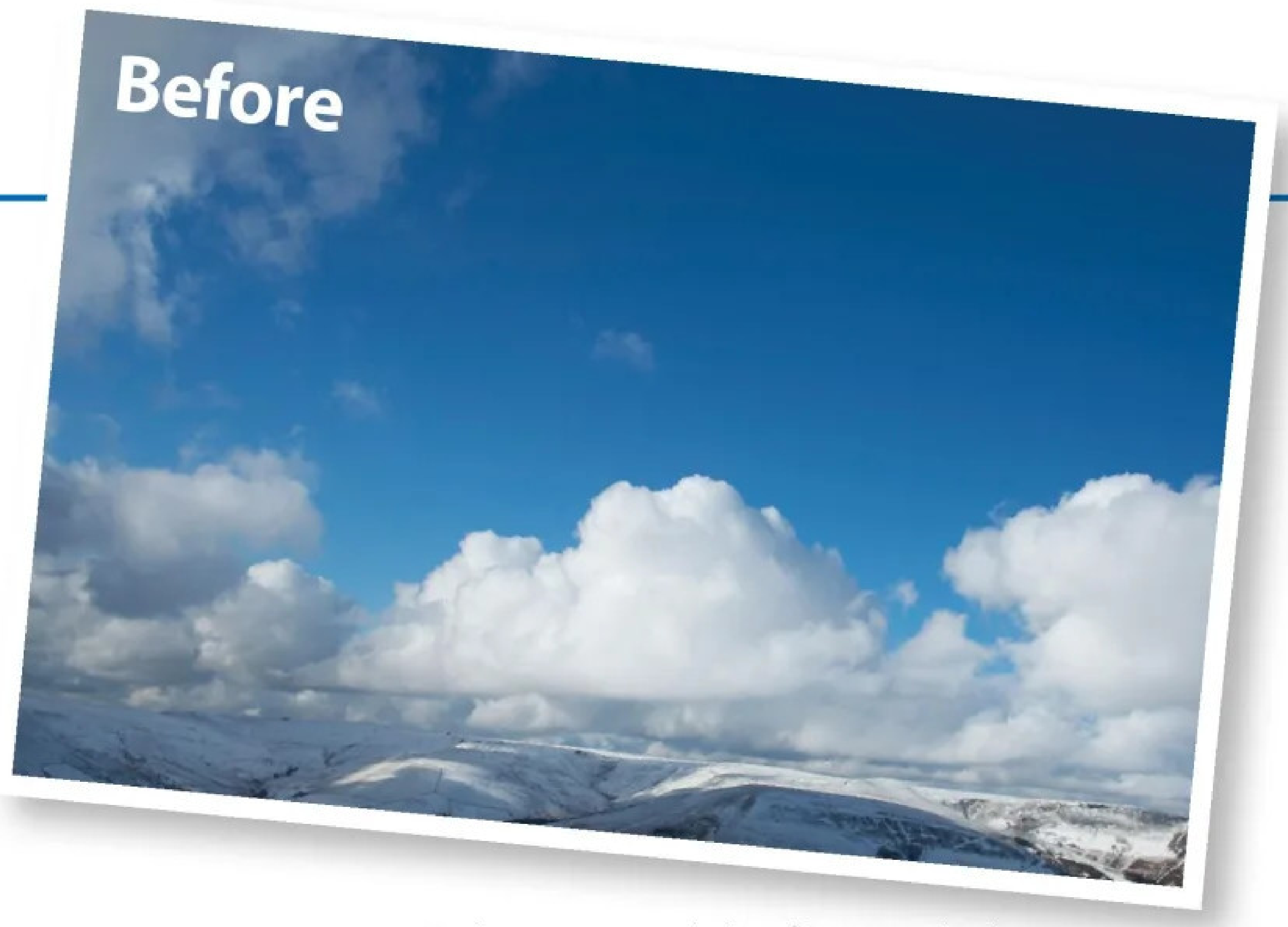
04 Fit a cable release
Use a cable release to lock the shutter open for the desired length of time. During very long exposures your sensor can heat up, causing hot pixels. Engaging your Nikon's Long Exposure Noise Reduction function takes and blends in a second exposure of the same length.

Quick tip
Strong NDs will often result in colour shifts, so shoot in Raw for greater control over editing white balance later.



05 Prevent light leakage
During a very long exposure in daylight hours, light can leak in through an open viewfinder and fog the image, resulting in a purple patch like this. To prevent this, block the viewfinder. Some Nikons have an inbuilt viewfinder shutter. Alternatively, use a piece of gaffer tape.

06 Open the shutter
With everything set up, use your cable release to lock open the shutter for the required amount of time. Then all we have to do is sit and wait. Once the time has elapsed, close the shutter. Check the image carefully for both sharpness and exposure.



Polarise the light

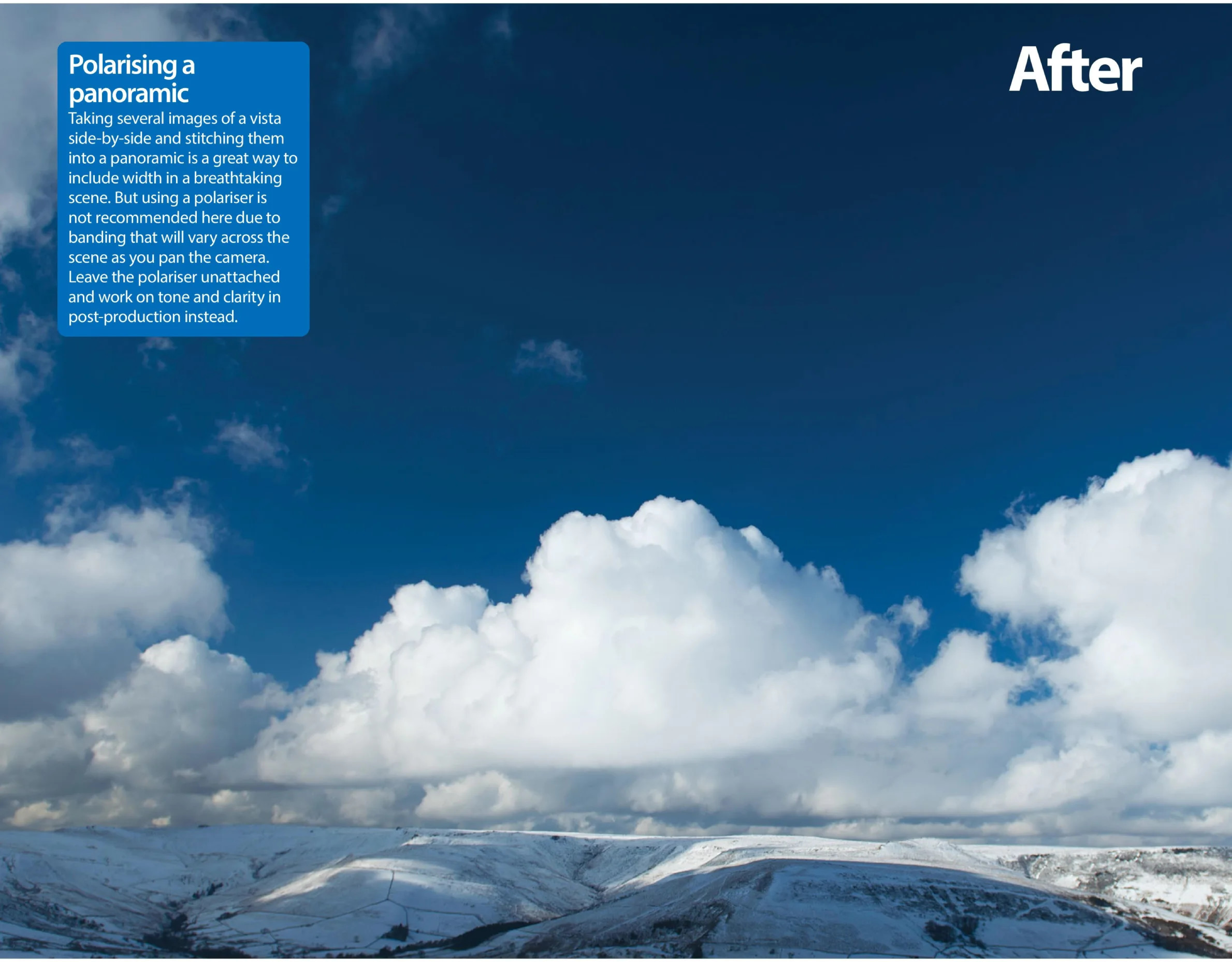
Using a polarising filter, we demonstrate how to increase contrast and darken skies when shooting clouds

Whether or not you're into meteorology, learning how to photograph clouds will improve your landscape photography no end. The majority of landscape photographs have sky in them, so why not use a filter to improve the tone, detail and contrast? Gone are the days of yellow and red filters on the ends of our lenses – used to darken blue skies on black-and-white film – as we can easily emulate these options in-camera. In terms of physical filters, however, the polariser is one of only a few left in the digital age that cannot be reproduced in-camera or on a computer. Polarisers work by filtering light reflected at certain angles, letting light pass through the lens in some directions while blocking others. This means when you're shooting water, glass or up at the sky, turning the polariser to its maximum strength will reduce glare. It also increases contrast and naturally boosts colours.

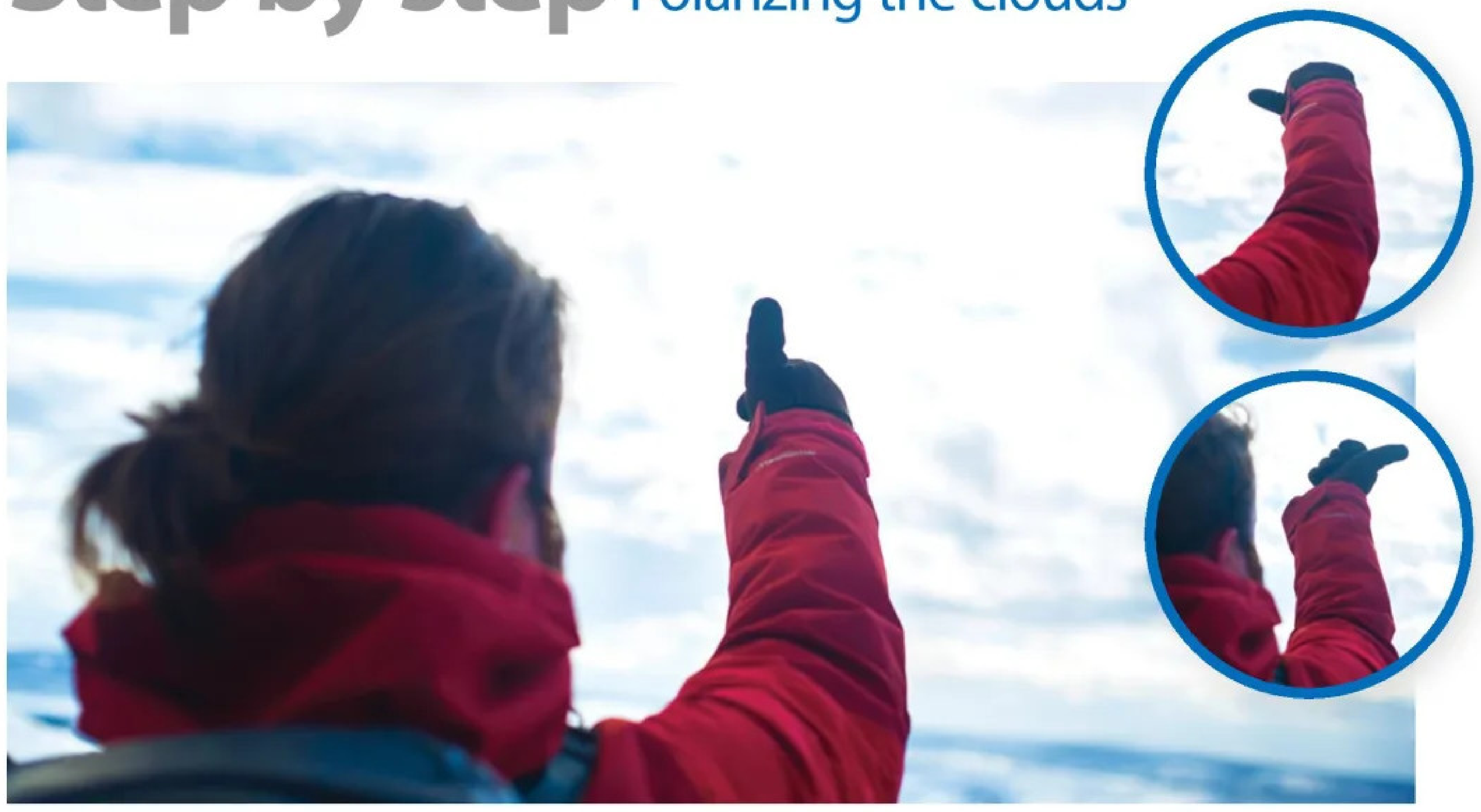
But it isn't as easy as popping it on and having a spin, so here we show you how to use your polarizing filter to its fullest.

Polarising a panoramic

Taking several images of a vista side-by-side and stitching them into a panoramic is a great way to include width in a breathtaking scene. But using a polariser is not recommended here due to banding that will vary across the scene as you pan the camera. Leave the polariser unattached and work on tone and clarity in post-production instead.



Step by step Polarizing the clouds



01 Look at the sun

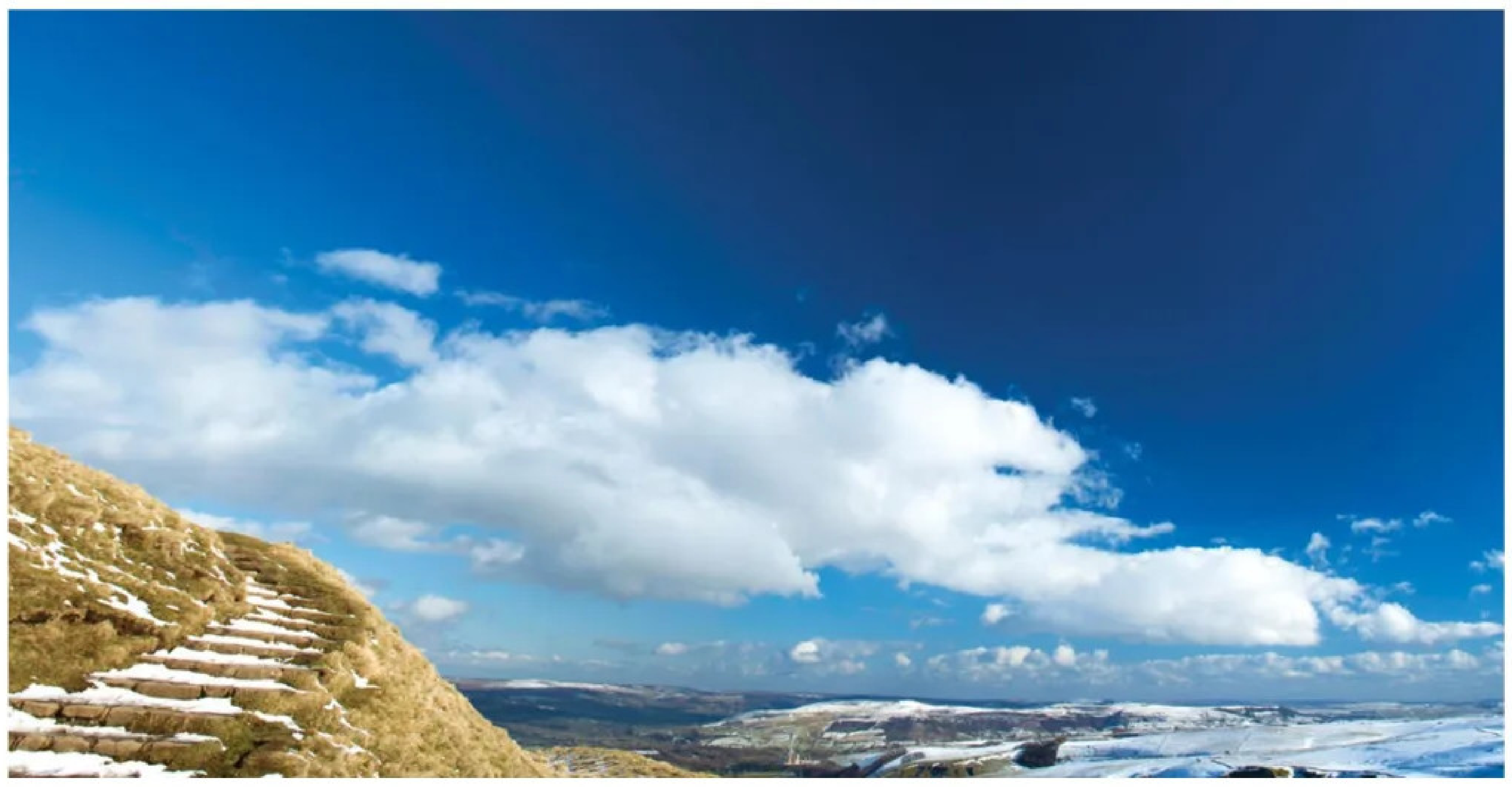
When outside, polarisers work best when shooting perpendicular to the direction of the sun. Try this: give the sun a thumbs up (place your thumb over the sun) now rotate your hand. The plane in which your hand rotates is where the polariser will be most effective.

02 Have a look

Polarising filters work without a camera, so before you screw it on your Nikon, hold it in front of your scene and rotate it. Notice how it effects the sky. You don't have to be exactly 90 degrees perpendicular to the sun for it to work, but it certainly wouldn't hurt!

03 Fix it on

A kit might allow you to slide filters into a holder on the front of your lens, but here we have a circular, screw-fit filter that screws into the filter thread on your lens. Some lenses have bulbous front elements, which mean a special adapter and extra large filters need to be used.

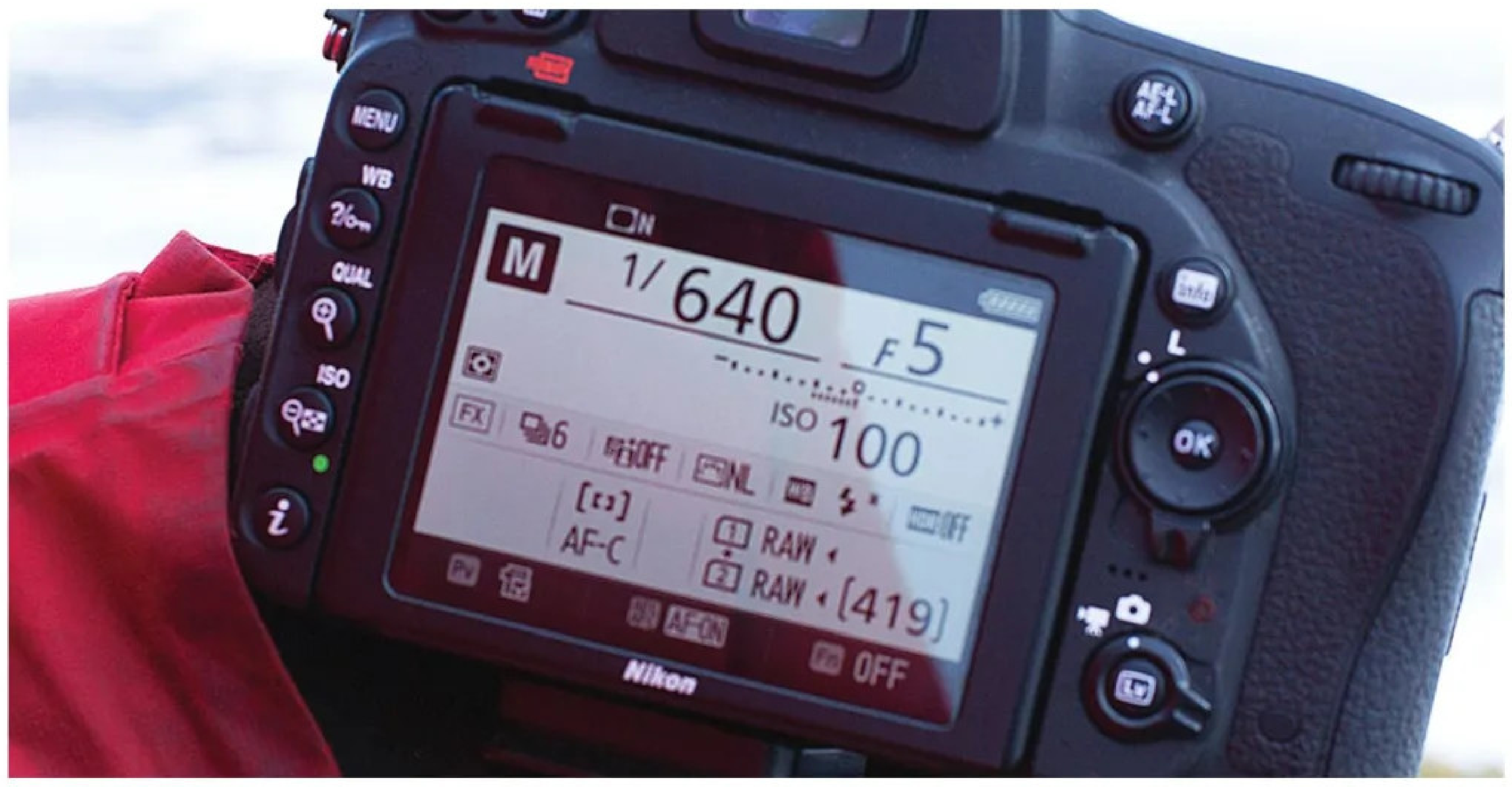


04 Avoid the dark band

If you're shooting a wide expanse of sky, be careful not to shoot at an angle where you're left with dark banding in specific areas. It'll leave the sky looking uneven. At this point it's either better to take off the filter or reposition yourself to remove it (closer to 90 degrees to the sun).

05 Cloudspotting

There are 10 species of clouds on earth (yes, species!) and they constantly evolve. Stormy days will provide tall, billowing cumulus congestus and nimbus clouds filled with detail. Or for more brush-stroked styles look towards mountain tops for lenticular formations.



06 Expose the scene

You want detail in the cloud but you also need it to look bright. On the day we had patchy cloud with bright skies, so in manual mode we opted for an aperture of f5, a shutter speed of 1/640 sec which meant we could shoot handheld at ISO100.

Get sharper shots when the light is low

Discover how you can get razor-sharp shots in low light using your Nikon's built-in AF-assist illuminator

There was a time where we had to manually focus our lenses. And before that, in the very earliest days of photography, cameras had no control over focusing at all. You'd have to be more of a scientist than an artist to set up a shot, positioning the camera to focus it, but today we have it easy since the introduction of autofocus.

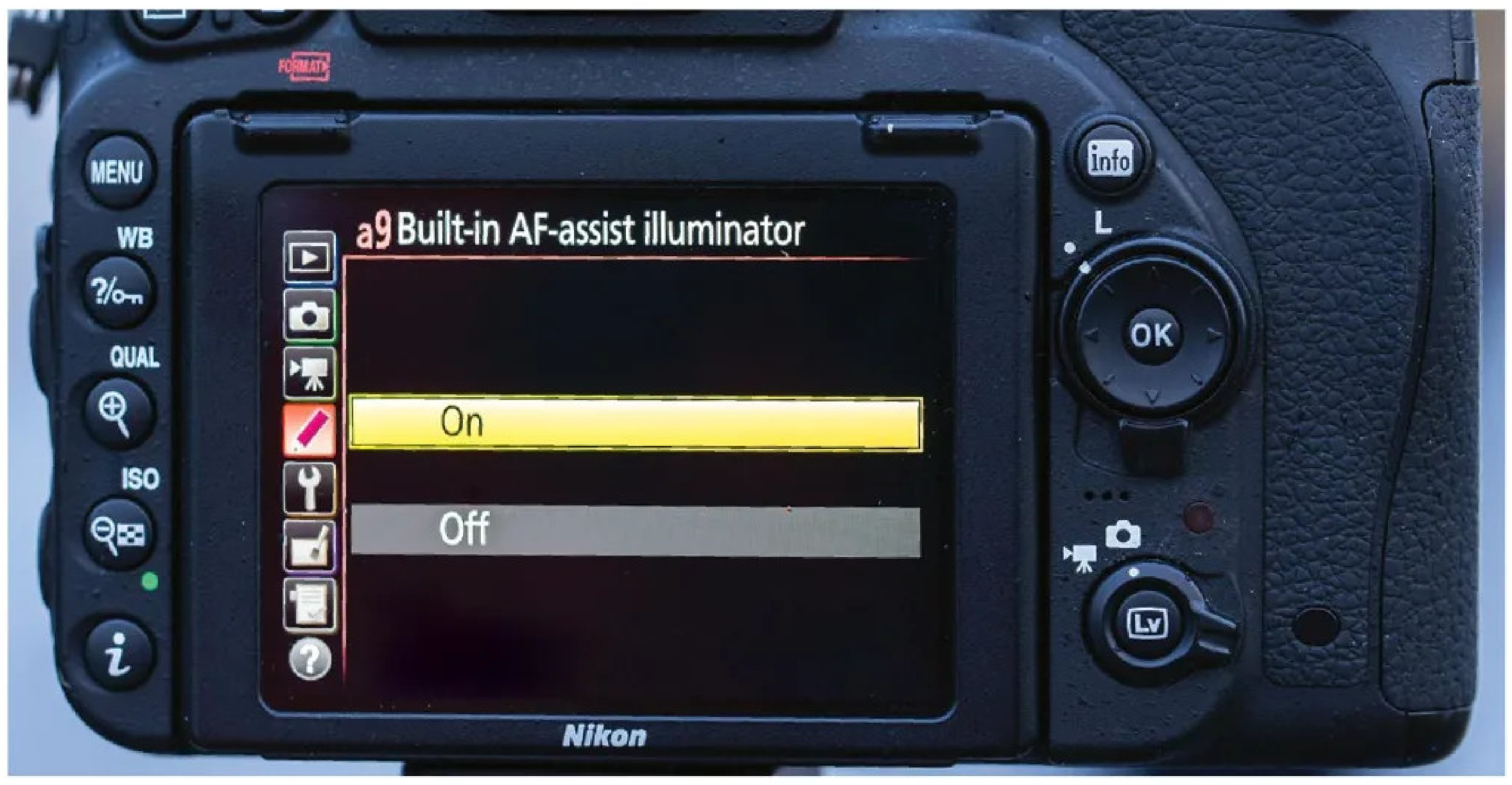
Autofocus works as soon as you depress the shutter release button halfway (or use a button on the back of your Nikon, if set up). It analyses the scene in front of you and makes adjustments in the focus of the lens until things are nice and sharp. It's a huge step up from where photography was when it started out, but autofocus still struggles in low light. If it's too dark the Nikon won't be able to analyse the environment accurately and will be unable to focus.

That's where the AF-assist illuminator comes in. It shoots out a small light from the camera body onto a subject in order for the system to pin-point focus. Follow the steps in our handy guide to find out how to do it.

Auto-servo AF

In AF-A (Auto-servo AF) the Nikon body automatically switches between AF-S (Single-servo AF) and AF-C (Continuous-servo AF) if it detects subject movement. When in AF-S the built-in AF-assist illuminator will work, in AF-C it won't.

Step by step Take sharp photos in low-light conditions


MENU
WB
QUAL
ISO
a9 Built-in AF-assist illuminator
On
Off
info
OK
Lv
Nikon

01 In the menu

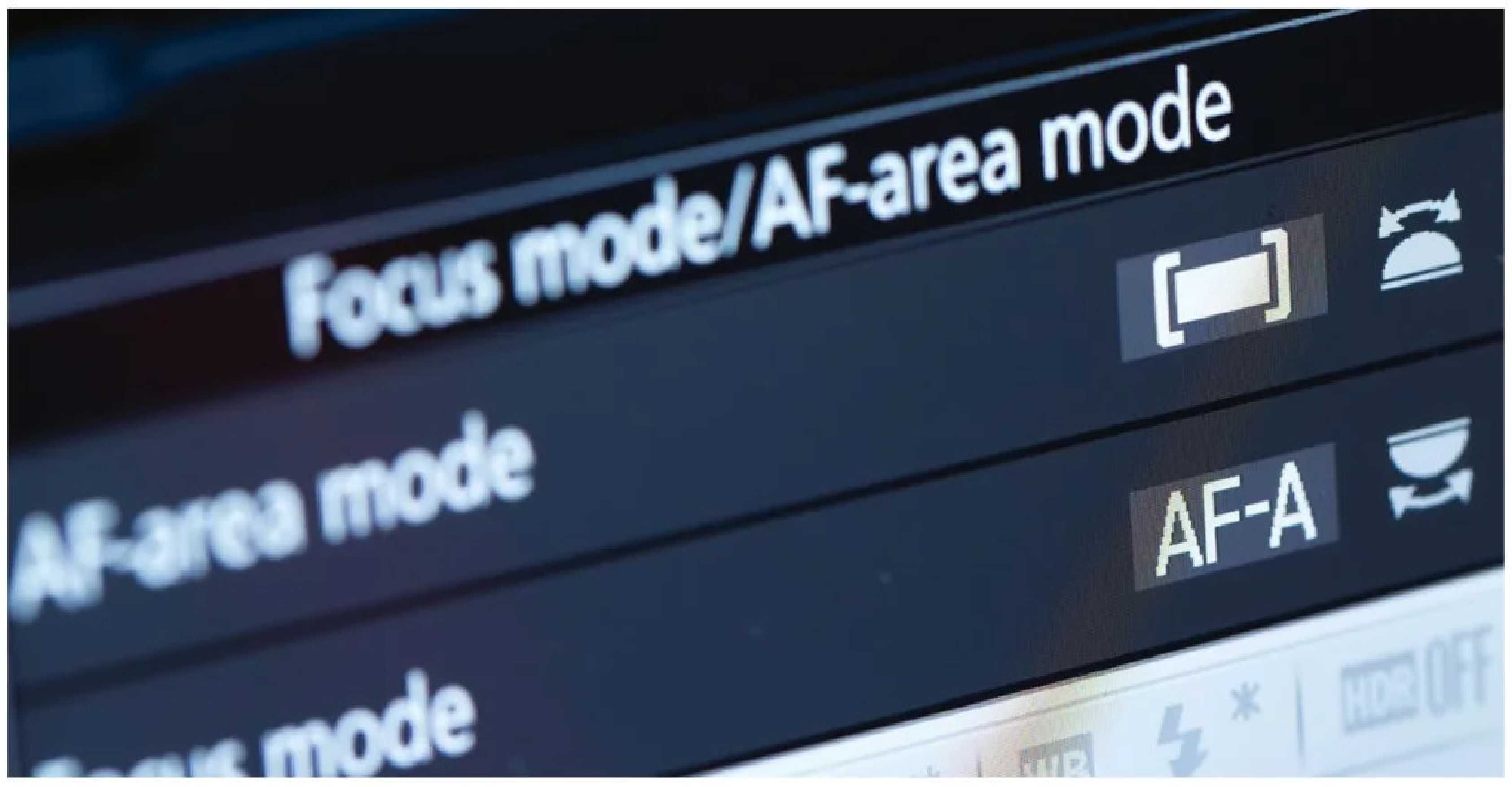
On your Nikon hit the Menu button, then: Custom Settings Menu>Built-in AF-assist illuminator and turn it on. Ensure the AF switch is set to AF on your lens and camera body. Now half-press the shutter button to focus and see the illuminator light up.

02 Get close

The AF-assist illuminator has a range of around 0.5-3.0m (1ft 8in-9ft) so ensure you're within range of your subject for it to work. This means it won't be useful for distant landscapes in low-light conditions, but will work on close-up flowers, people and other subjects.

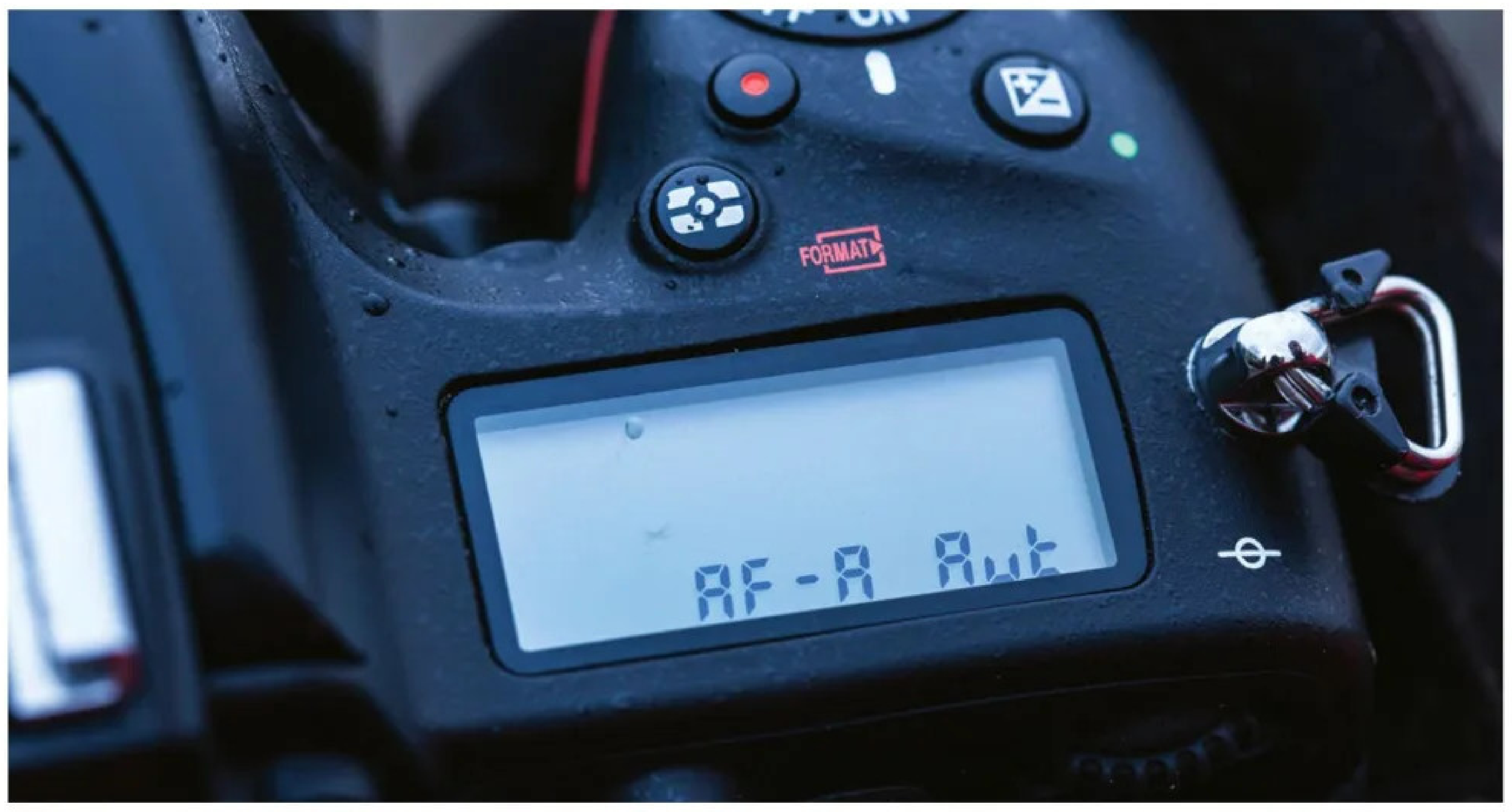
03 Remove your lens hood

In order for the illuminator to effectively work it needs to strike your subject without obstruction. So make sure your hands don't get in the way, and remove the lens hood, if you have one. It will also only work through the viewfinder, so don't engage Live View.


Focus mode/AF-area mode
AF-area mode
AF-A
Focus mode

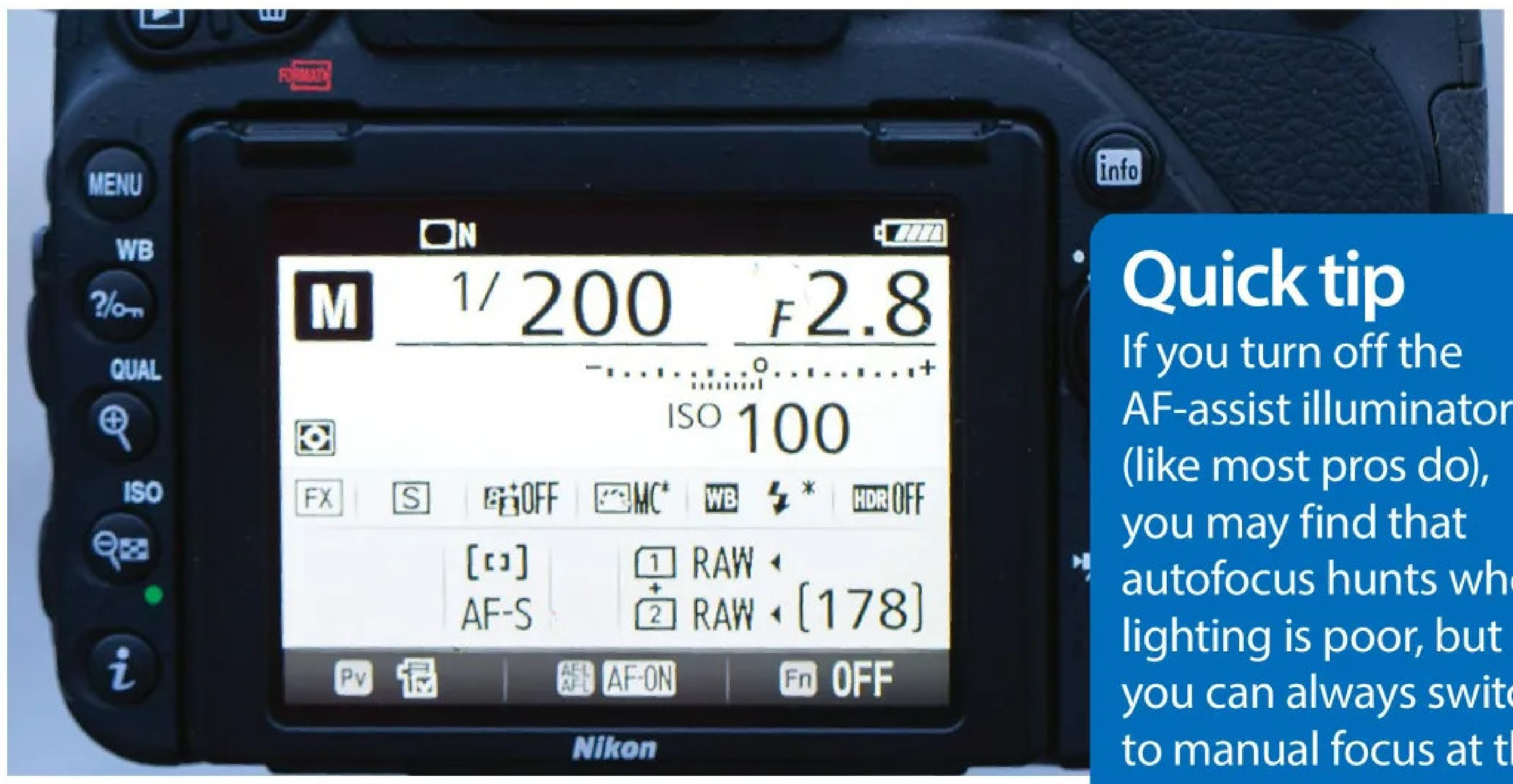
04 AF mode

This works when the focusing system is in AF-S (Single-servo AF) mode. It can work in AF-A (Auto-servo AF) mode if Single-servo AF is selected when shooting (see tip). To check, hit the AF button on the camera and use the sub-command dial to scroll through AF options.


FORMAT
AF-A Aut

05 Auto-area AF

If you're wondering why your illuminator still isn't working, it could be because Auto-area AF has to be chosen for the AF-area mode. With the AF button depressed, scroll through with your command dial until you reach AF-A.


MENU
WB
QUAL
ISO
M
1/200
F2.8
ISO 100
FX
S
OFF
AF-S
RAW
RAW
[178]
AF-ON
Fn OFF
info
Nikon

06 Settings

Our final settings were an aperture of f2.8 to minimize the exposure time when shooting in low-light conditions, 1/200 sec shutter speed to avoid camera shake while shooting handheld and ISO100 to reduce any excessive noise that might creep into the image.

Quick tip

If you turn off the AF-assist illuminator (like most pros do), you may find that autofocus hunts when lighting is poor, but you can always switch to manual focus at this point if you want to.

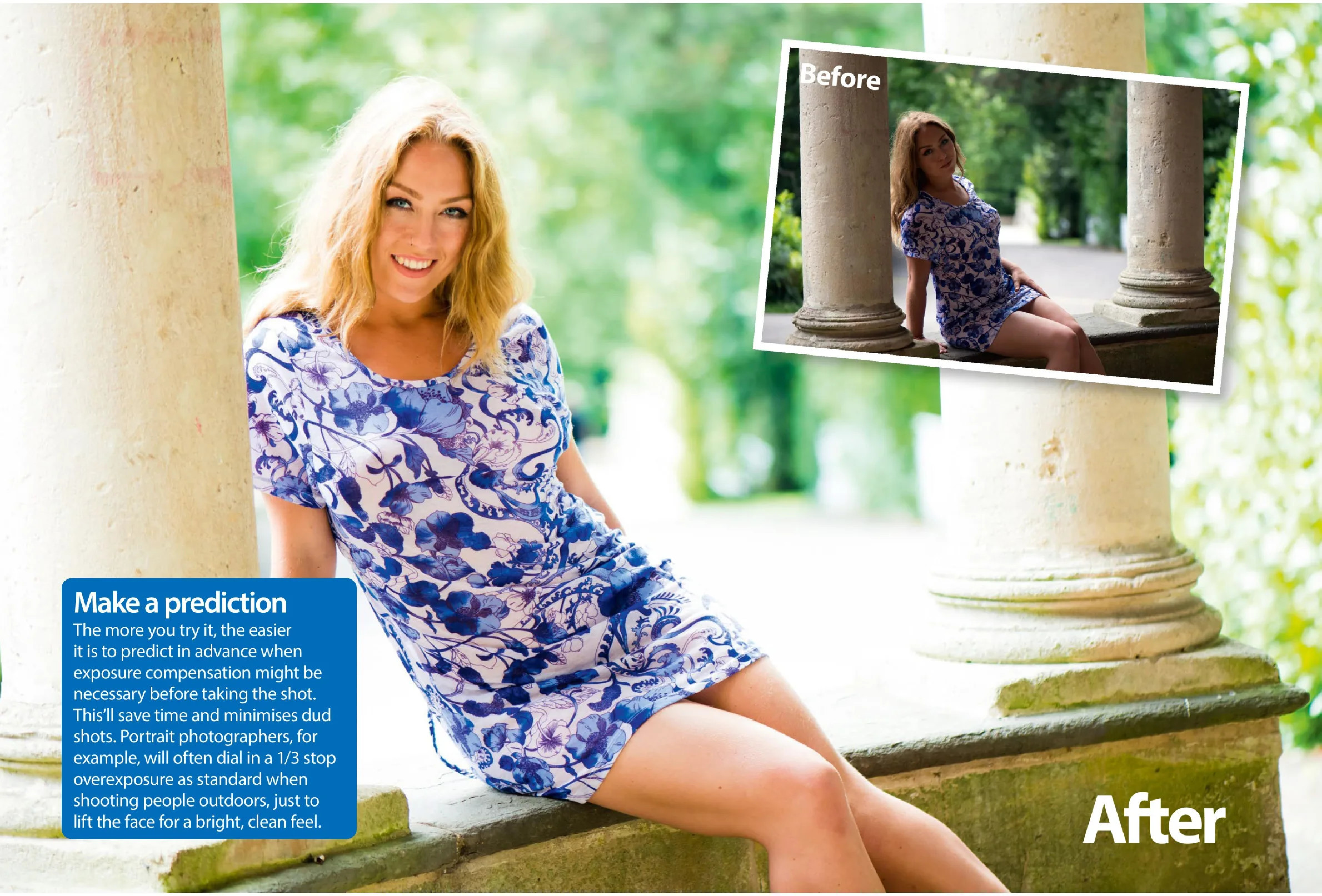
Exposure compensation

Learn how exposure compensation can help in tricky lighting conditions

Your Nikon's metering system plays a vital role in picture-taking. It works out how much light should enter the camera to make a correct exposure. Be warned, though: it's very clever, but it's not completely foolproof. The problem with metering is that it takes an average reading (either of the entire frame or part of it, depending on which metering mode you're in), and this reading is assumed to be a midtone, halfway between white and black.

More often than not this assumption comes out right, but the metering system can struggle when a frame is dominated by areas of extreme brightness or darkness. For example, imagine a person standing in the snow wearing a white coat. The frame will be dominated by whites, but your metering system doesn't know that it's snow, all it detects is overly bright tones. So it does what it's designed to do, which is allow less light than into the camera in order to average out the scene. The result could be an underexposed face. On the other hand, imagine a person standing under a spotlight in a dark room. This time the metering may be tricked by the large expanse of black into assuming the subject is darker than it really is, and overexpose the face. It's all about portions of the frame. Your camera can't always work out what the most important portion is – but you can. The question is, if the camera gets it wrong, what can you do about it? The solution is exposure compensation. Found on all DSLRs, this feature lets you dial in more or less light as needed. Here's how…

> "Found on all DSLRs, exposure compensation lets you dial in more or less light as needed"



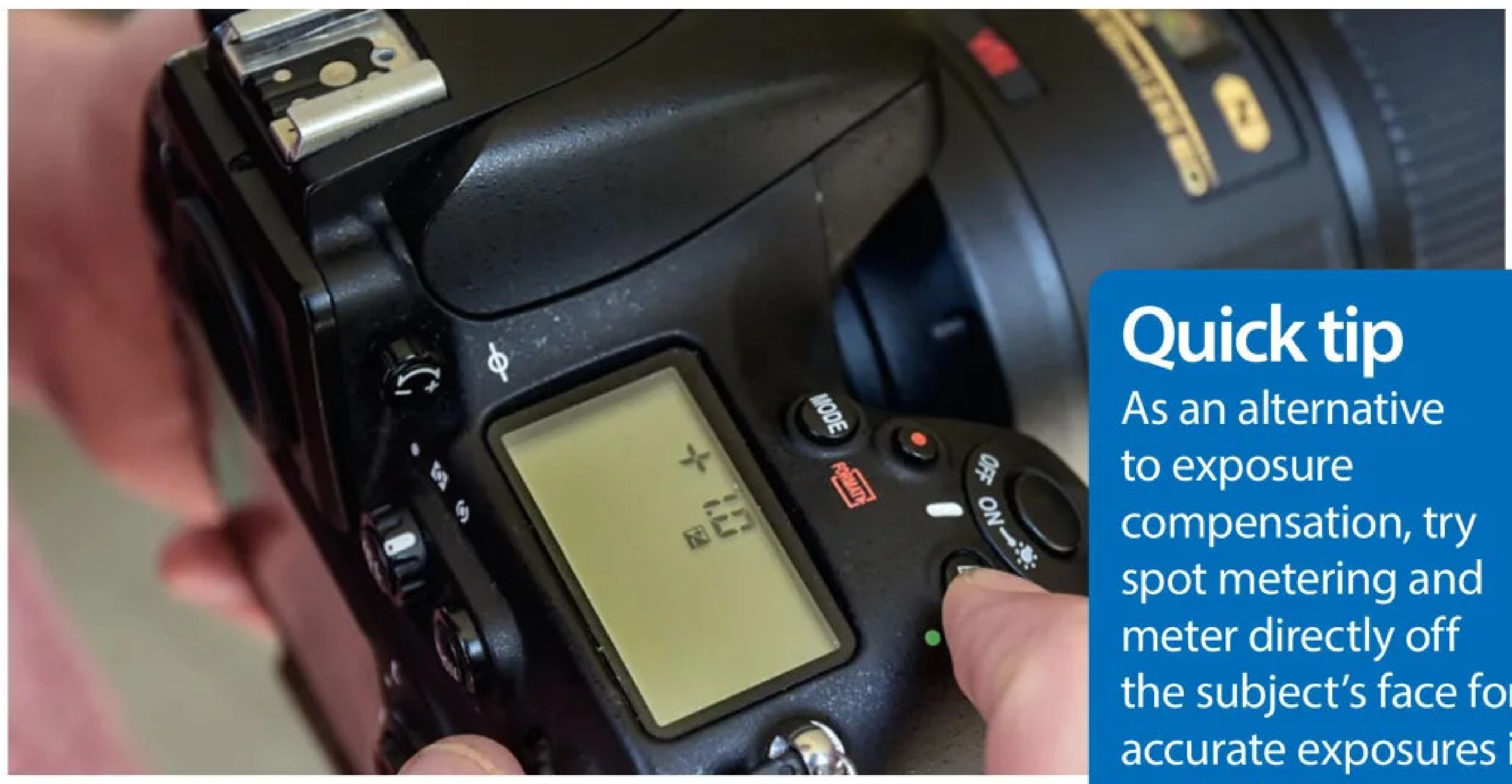
Make a prediction

The more you try it, the easier it is to predict in advance when exposure compensation might be necessary before taking the shot. This'll save time and minimises dud shots. Portrait photographers, for example, will often dial in a 1/3 stop overexposure as standard when shooting people outdoors, just to lift the face for a bright, clean feel.

Step by step Control brightness

01 On the dark side

At +1 stop we've lifted the subject, but perhaps not enough. So we can try adding in a little more light. We took it to +2.3 for our main image here. This correctly exposes the face; it blows out some of the background detail but that's fine, we can't have it both ways.



02 Give it one

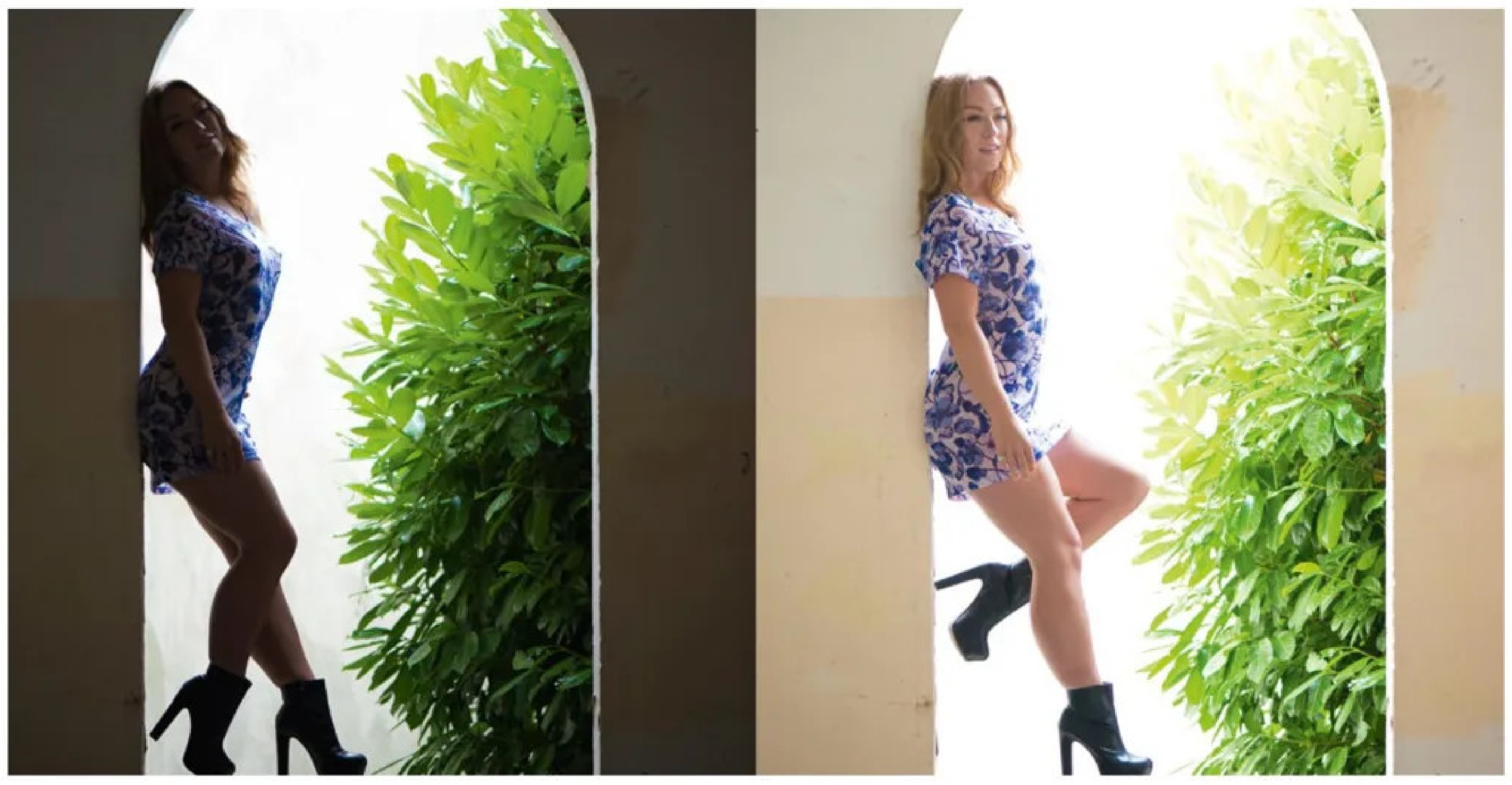
If you don't want to leave your subject in the dark, now's the time to try exposure compensation. Most Nikon DSLRs have a dedicated exposure compensation button on the top plate. Hold it down and flick the back dial to add in more light – here we'll try +1 stop.

Quick tip

As an alternative to exposure compensation, try spot metering and meter directly off the subject's face for accurate exposures in any lighting conditions

03 Add more light

At +1 stop we've lifted the subject, but perhaps not enough. So we can try adding in a little more light. We took it to +2.3 for our main image here. This correctly exposes the face; it blows out some of the background detail but that's fine, we can't have it both ways.

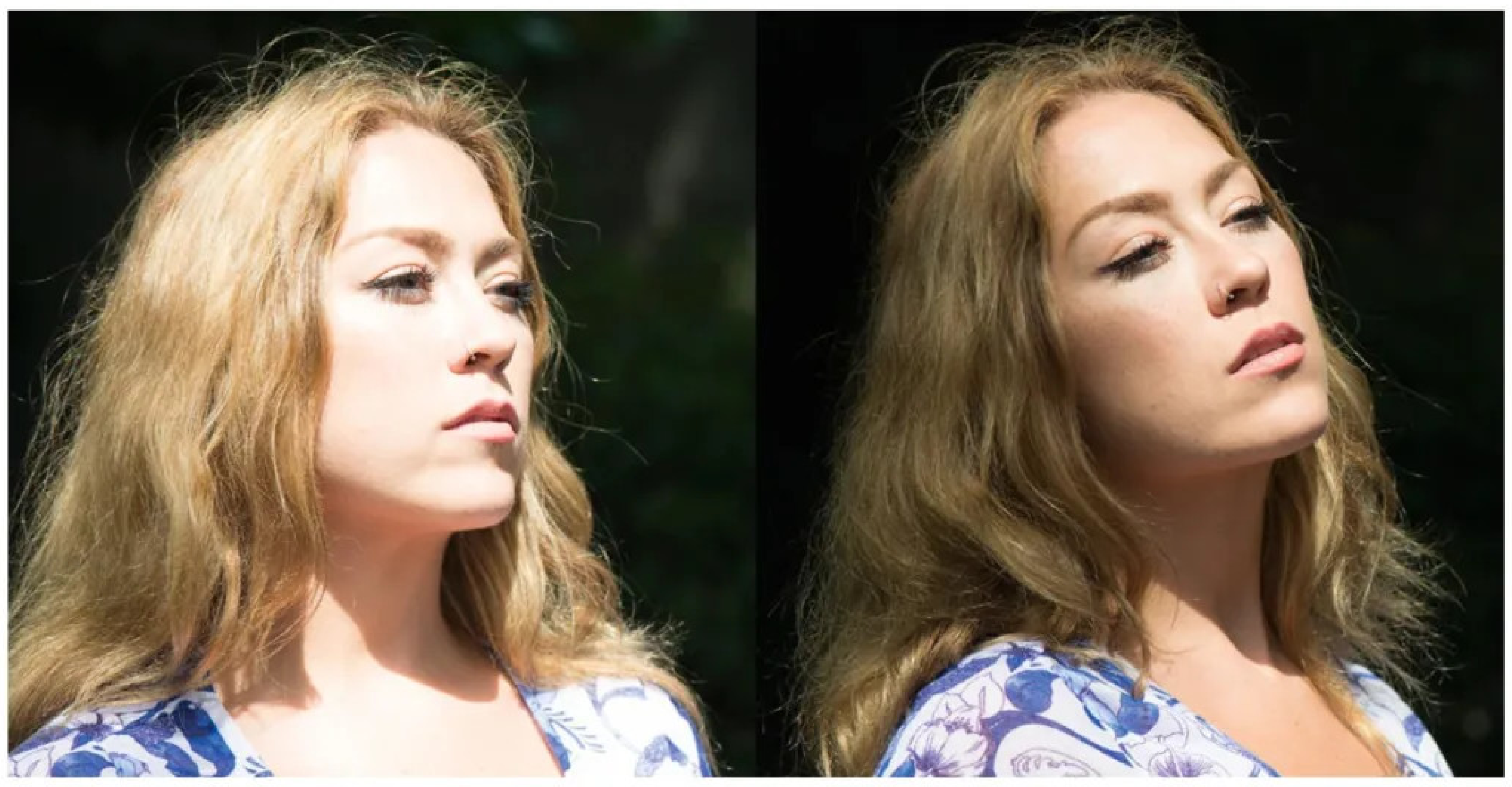


04 Change the mood

Exposure compensation gives you a huge degree of control over the mood of your shots. Here, with the flick of a dial we go from a moody silhouette to a bright, airy portrait. Just remember, reset the dial when you're done or it might trip you up next time you pick up your camera!

05 Light to dark

When the background is darker than the subject we have the opposite problem: our metering system may overexpose the face. We moved our model into the light and shot into a background of shade. When shooting in sunshine like this, tilt the face upwards towards the light.



06 Take it down

As you can see from the shot on the left, the large dark patches in the frame have fooled the meter into thinking we need more light than we really do, resulting in an overexposed face. So we dial in -1 stop of underexposure and the skin tones look much nicer.

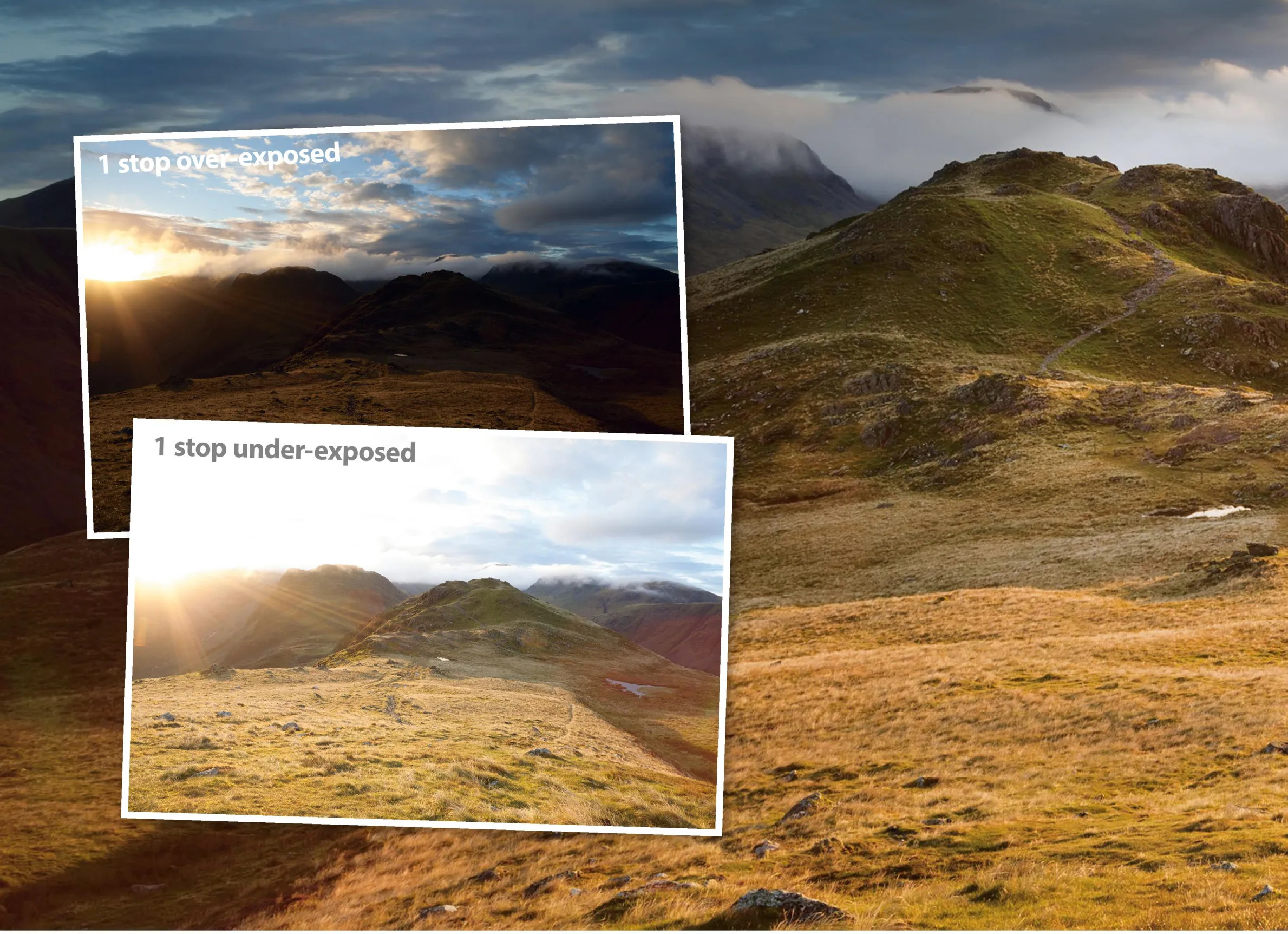
Model: Erin Leighton

Bracket your exposures

Discover how shooting three different exposures of the same high-contrast scene will ensure you always get your exposure spot on

Getting an even exposure across a very wide-angle landscape shot can be challenging, especially if you're working in bright sunlight, when contrast is likely to be more pronounced. To help with this, all Nikon DSLRs boast a feature called Auto Exposure Bracketing, or AEB.

Bracketing essentially involves taking multiple versions of the same image at different exposure settings, to maximise your chances of getting at least one of them spot on – or at least as spot on as you can given the lighting conditions. Here's how it works: you take a photo as normal, using the settings that you think will give you the best possible exposure, then your Nikon automatically captures one image brighter than your chosen exposure, and another one darker. How much brighter and darker your bracketed images are can be adjusted from 0.3 to three stops, depending on your camera model. As you can't always be sure whether an image is correctly exposed until you see it on a computer, having a selection gives you more choice. You can also merge the photographs in post-production to get the best out of each, creating an effect akin to that of using an ND grad. Although you'll have to spend more time in the digital darkroom than you would if you shot with an ND grad, the effect is far more flexible, as you aren't limited to darkening what's above the horizon – you can include whatever parts of the three exposures you'd like to show, wherever they are in the scene. Whether you use Photoshop or not, here's how to bracket your shots...



Other options

Nikon DSLRs feature a range of options for bracketing. They all work by shooting a series of images with slight variations between them. There is the standard AE mode, which varies the exposure settings; Flash mode will bracket the flash power output; and White Balance varies the white balance across the sequence to get the right colour, and can be useful in mixed lighting conditions.

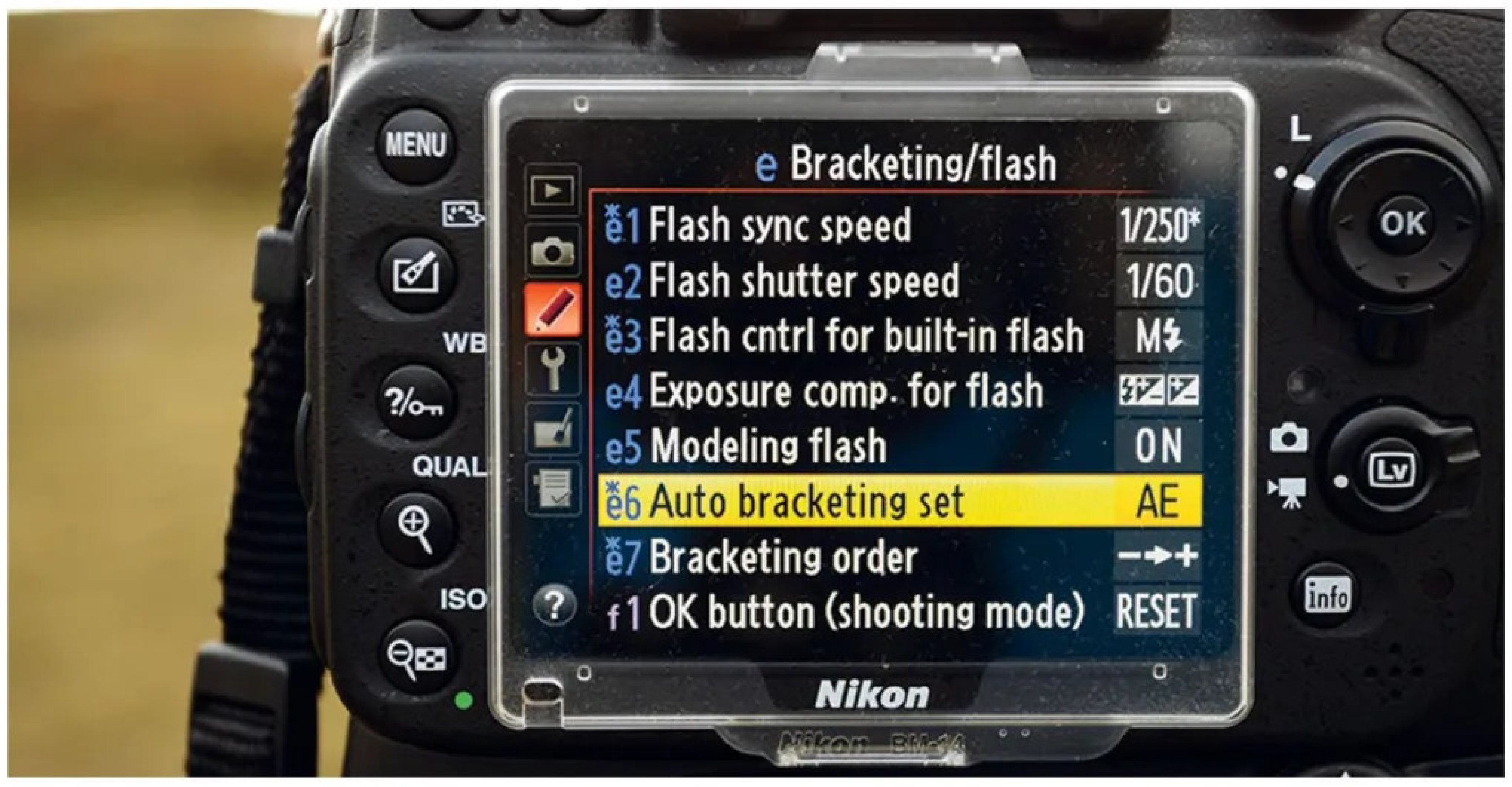
Step by step Variety pack – how to ensure you always get the best possible exposure in-camera

01 Learn to love contrast!

Bracketing comes into its own in tricky, high-contrast lighting, when your Nikon's sensor isn't be able to capture both the darkest shadows and brightest highlights in the same shot. One of the main advantages of bracketing is that you get a range of exposures to choose from.

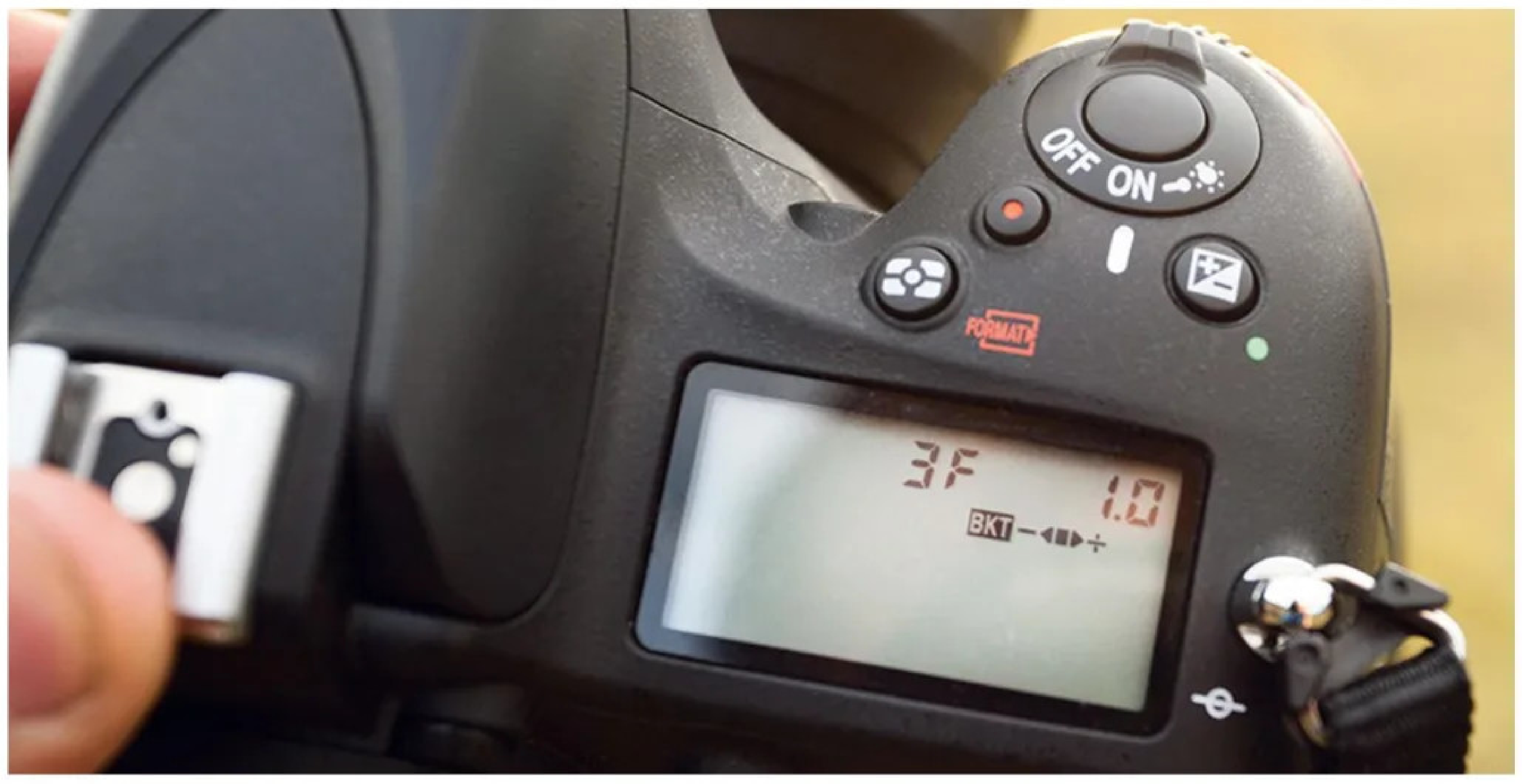
02 Same same, but different

Although a tripod isn't essential for bracketing, it's always a good idea to use one when you're shooting landscapes in any case, and if you plan to merge your images later on, a tripod will help keep the composition consistent, and make shots easier to align in Photoshop.


MENU
WB
QUAL
ISO
OK
info
e Bracketing/flash
e1 Flash sync speed 1/250*
e2 Flash shutter speed 1/60
e3 Flash cntrl for built-in flash M
e4 Exposure comp. for flash
e5 Modeling flash ON
e6 Auto bracketing set AE
e7 Bracketing order
f1 OK button (shooting mode) RESET
Nikon

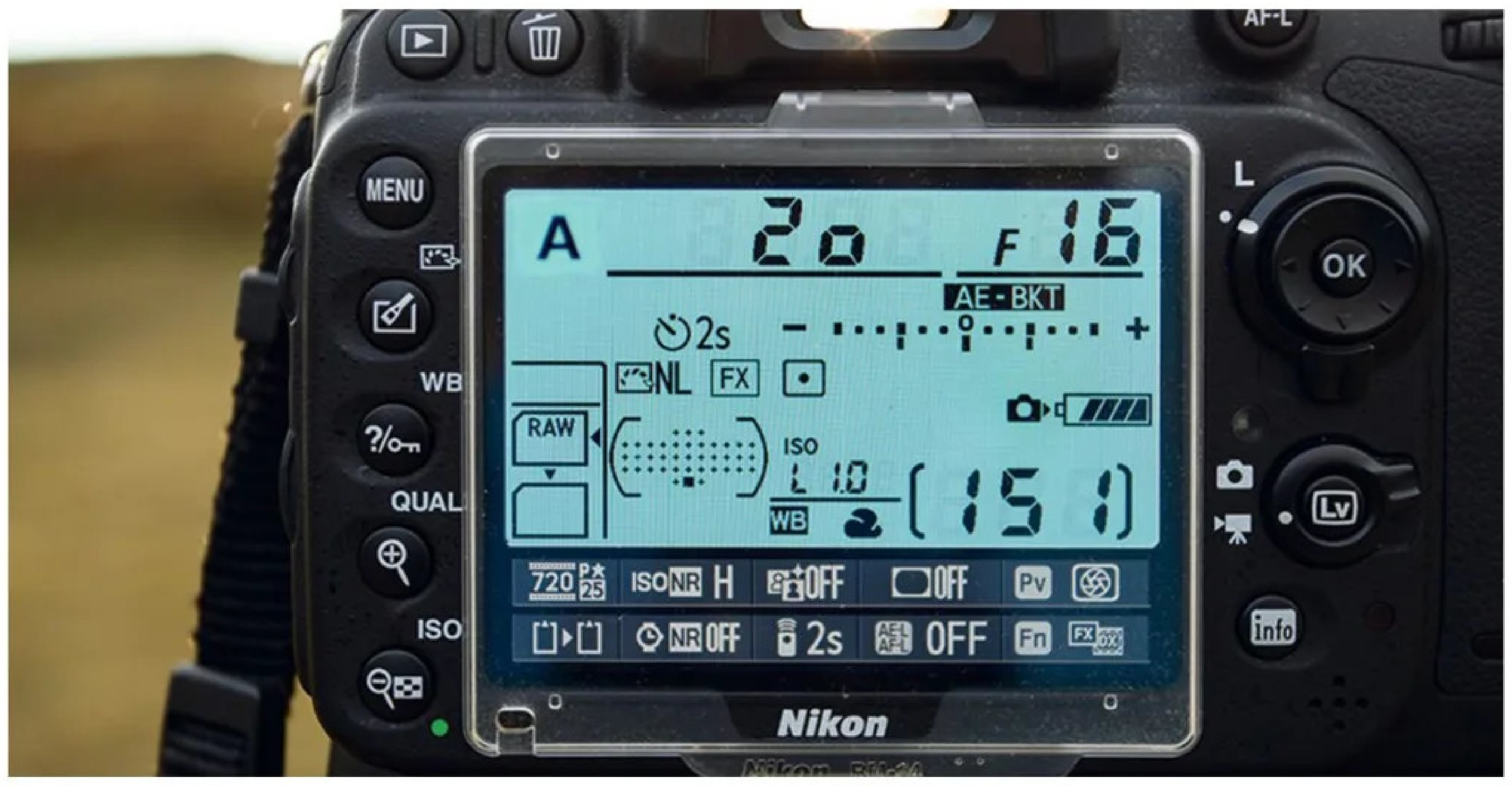
03 Set the standard

The bracketing options are in the Flash and bracketing custom settings menu. Use the standard AE mode, so that the setting that changes is the shutter speed. If you're shooting in shutter-priority mode, though, the aperture will change rather than the shutter speed.


OFF ON
FORMAT
3F 1.0
BKT

04 Dial it in

Higher-end Nikons, such as the D610 pictured, feature a dedicated bracketing button. On smaller DSLRs you will have to use the rear LCD. Use the rear dial to set the number of shots (eg three frames), and the front wheel to set the increment between shots (eg one stop).


MENU
WB
QUAL
ISO
OK
info
A 20 F16
AE-BKT
2s
RAW
ISO
[151]
Nikon

05 Make a start

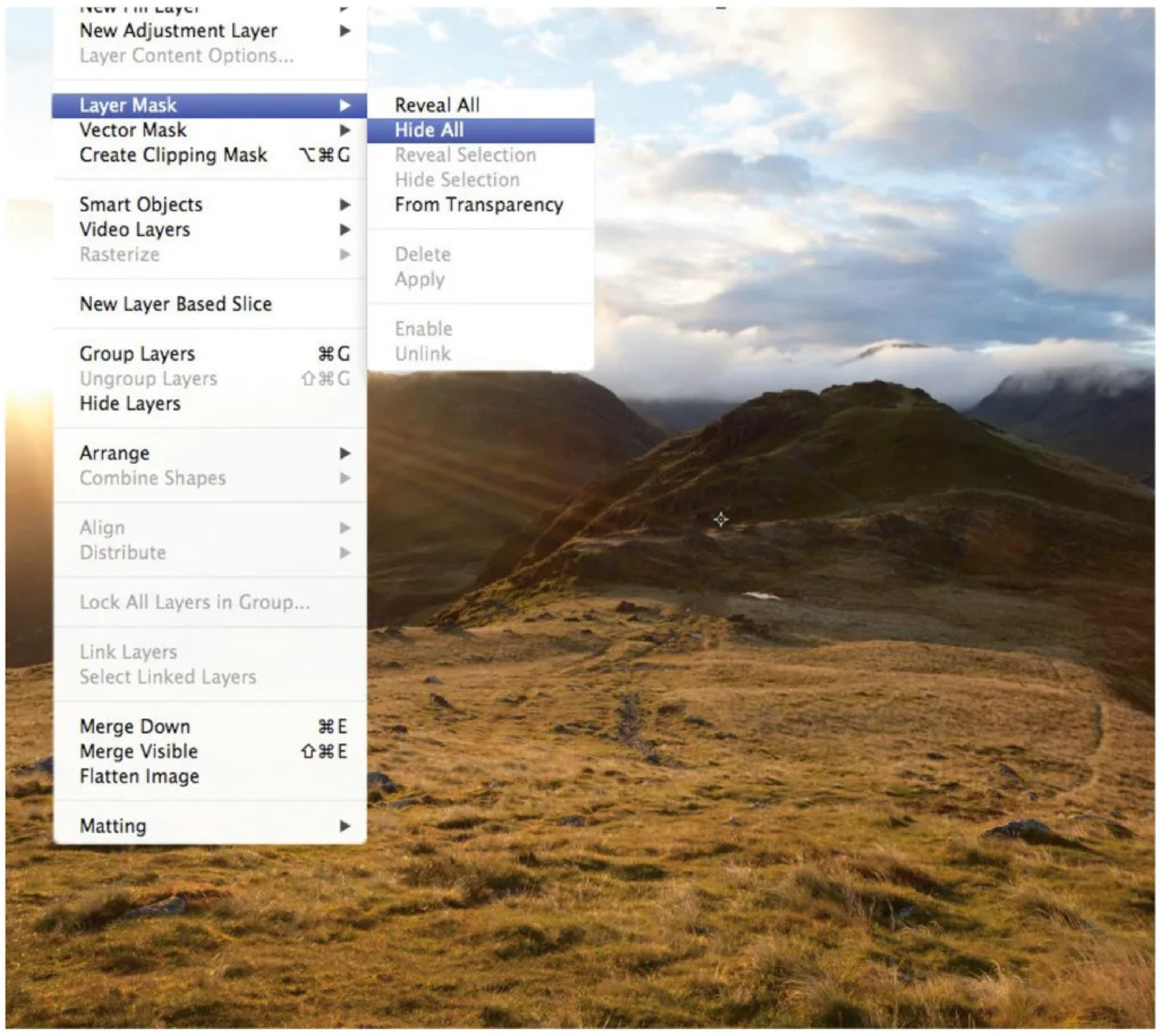
Set the 'correct' exposure as your starting point (ie with the exposure level indicator lined up with the '0'). For our shot, we set aperture-priority mode and Spot metering, and then used the mid-tone of the grass in the middle of the frame to set our average, 'best-guess' exposure.

S CL CH Q QC
FORMAT

06 Fire away

Finally, select the self timer mode on your shooting dial. This will allow you to shoot hands-free and prevent any camera shake. Once you've pressed the shutter release, the camera will wait for the time you've specified, then fire off three images at three different exposures.

Key skill Combine the best bits of each exposure in the digital darkroom

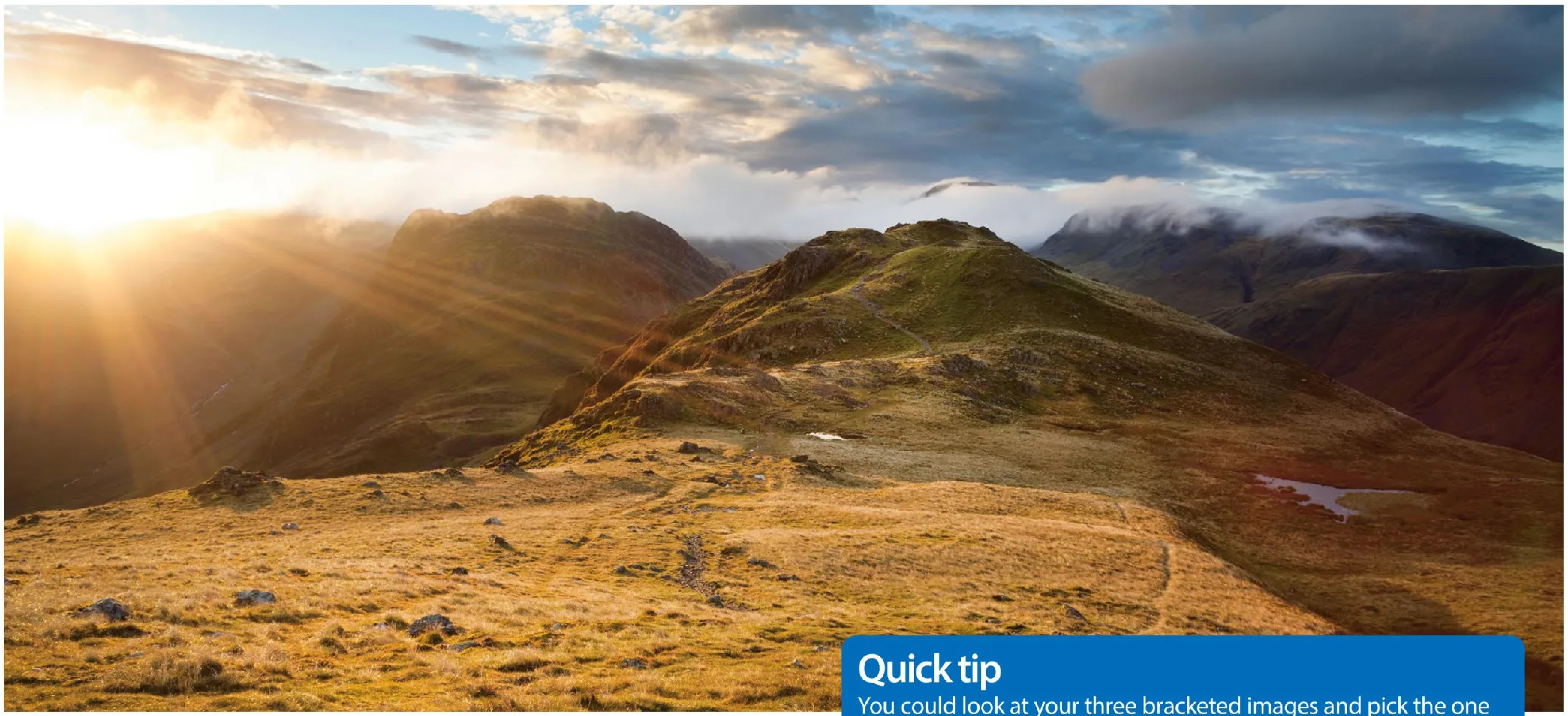

New Adjustment Layer
Layer Content Options...
Layer Mask
Vector Mask
Create Clipping Mask ⌥⌘G
Smart Objects
Video Layers
Rasterize
New Layer Based Slice
Group Layers ⌘G
Ungroup Layers ⇧⌘G
Hide Layers
Arrange
Combine Shapes
Align
Distribute
Lock All Layers in Group...
Link Layers
Select Linked Layers
Merge Down ⌘E
Merge Visible ⇧⌘E
Flatten Image
Matting
Reveal All
Hide All
Reveal Selection
Hide Selection
From Transparency
Delete
Apply
Enable
Unlink

01 Layer them up

Drag your images onto one canvas with the move tool (V). Hide the top layer, reduce the opacity on the second, then align the images. Reset the second layer's opacity to 100%, and hide it. Reveal the top layer, reduce the opacity and repeat the aligning process with the third image.

02 Reveal the best bits

Reveal all the layers. Select your top layer. Go to Layer>Layer Mask>Hide All. Repeat for your second layer. Select the brush tool (B). Select the top layer mask, then paint with white over the areas you'd like to reveal from this image. Repeat for the second layer.



03 Finalise the image

With the top layer selected, hit Cmd/Ctrl+Alt+Shift+E to merge all the layers into a new layer. You can then make any further adjustments to this layer. We've removed some marks using the Healing Brush (J), increased the contrast with a Curves layer, and finally cropped our image to size (C).

Quick tip

You could look at your three bracketed images and pick the one with the best exposure, but with Photoshop you can combine all three to create one perfectly-exposed picture. (If you don't have Photoshop, you can tease out shadow and highlight detail using Nikon's own free editing software, Capture NX-D. See page 94 for our step-by-step guide.)

Follow the sun

Discover how to chart the position of the sun to give your landscapes the edge

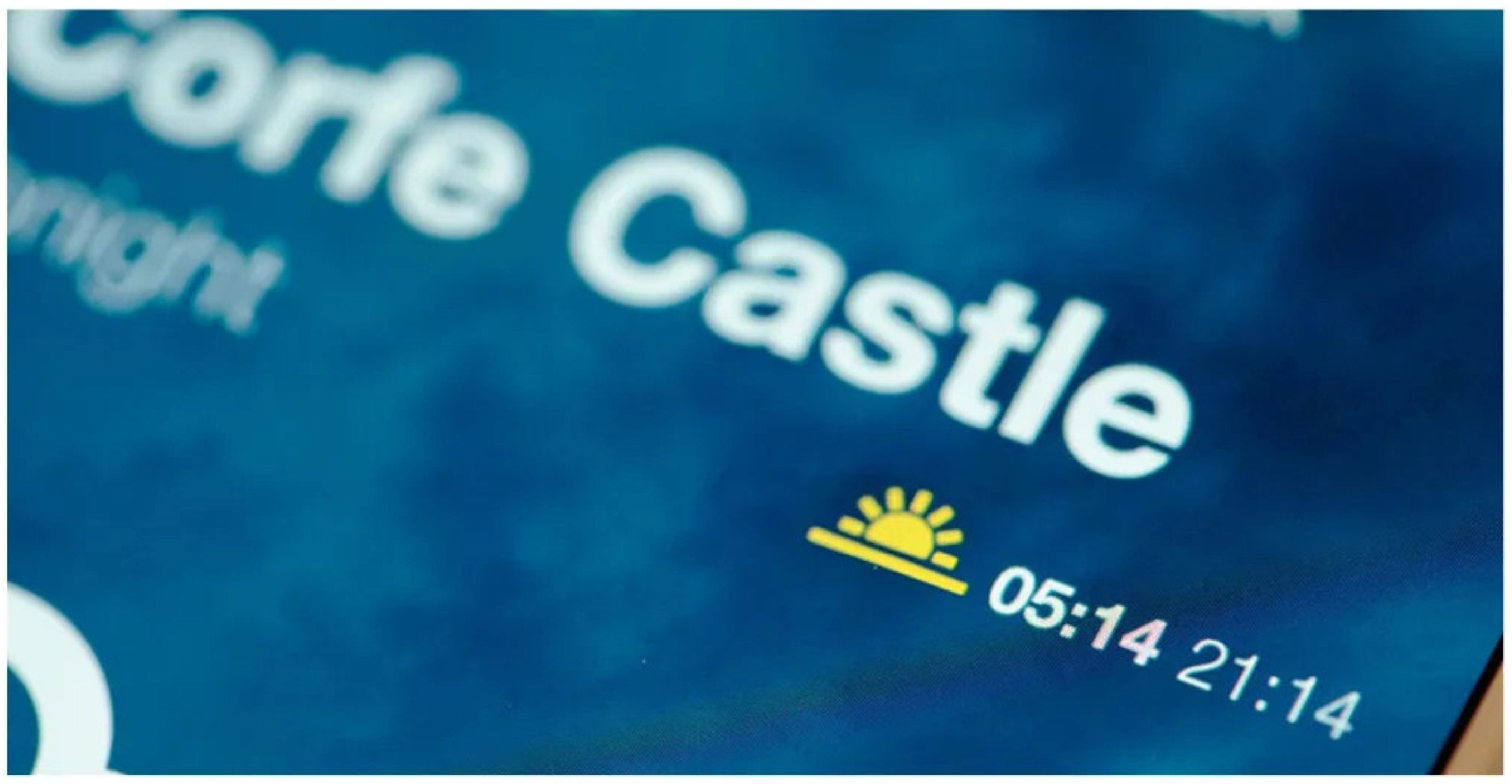
Photography is all about light: its direction, angle, quality and strength. Scenes can look very different under varied lighting conditions and, as any landscape photographer knows, the most attractive natural light occurs at the start and end of the day. Not only does the low angle of the sun create pockets of light and shade that reveal the contours of a landscape, its rays have to pass through more of the earth's atmosphere, causing the light to take on the warm qualities that result in vibrant sunrises and sunsets. If you can work out how the light will behave in advance, you'll have a huge advantage when shooting landscapes. This is where technology can help. With a smartphone, all the information you need is at your fingertips. In the last few years several apps have been developed specifically for this purpose, including the excellent PhotoPills. It's possible to chart the trajectory of the sun with such precision that you can even predict exactly where it will appear in your composition. Here we'll use PhotoPills along with other planning tools to work out exactly where the sun will rise. With smart tools like this, we can predict the angle of the sun and determine the most vibrant part of the sky long before going out to shoot it.

Excellent planning apps

A wealth of useful information on the sun, moon and tides can be at your fingertips with a few clever apps. Here are our picks: PhotoPills (£7.99/ $12.49) has raised the bar for planning apps with its sheer number of tools and tutorials. Then there's The Photographer's Ephemeris (£6.99/ $8.99), a long-cherished tool for landscape photographers. Photographer's Transit (£6.99/$8.99), the sister app to The Photographer's Ephemeris, is a shot-planning tool that helps you determine sight lines. And Tides Near Me (free) is a handy app for seascape photographers that gives you the last and next tide at nearby coastlines.

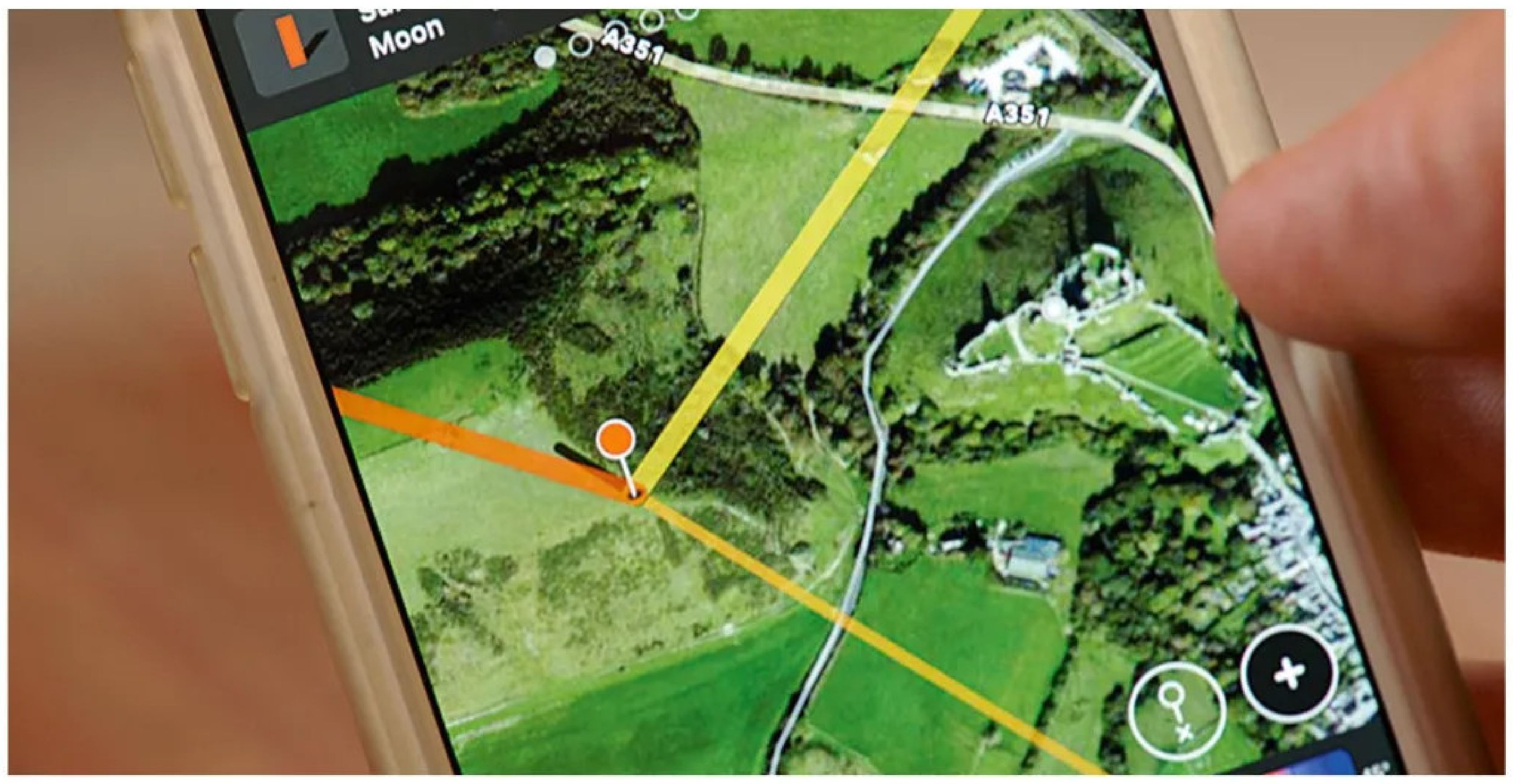
> "If you can work out how the light will behave in advance, you'll have a huge advantage"

Step by step Plan your sunrise shoot


Corfe Castle
05:14 21:14

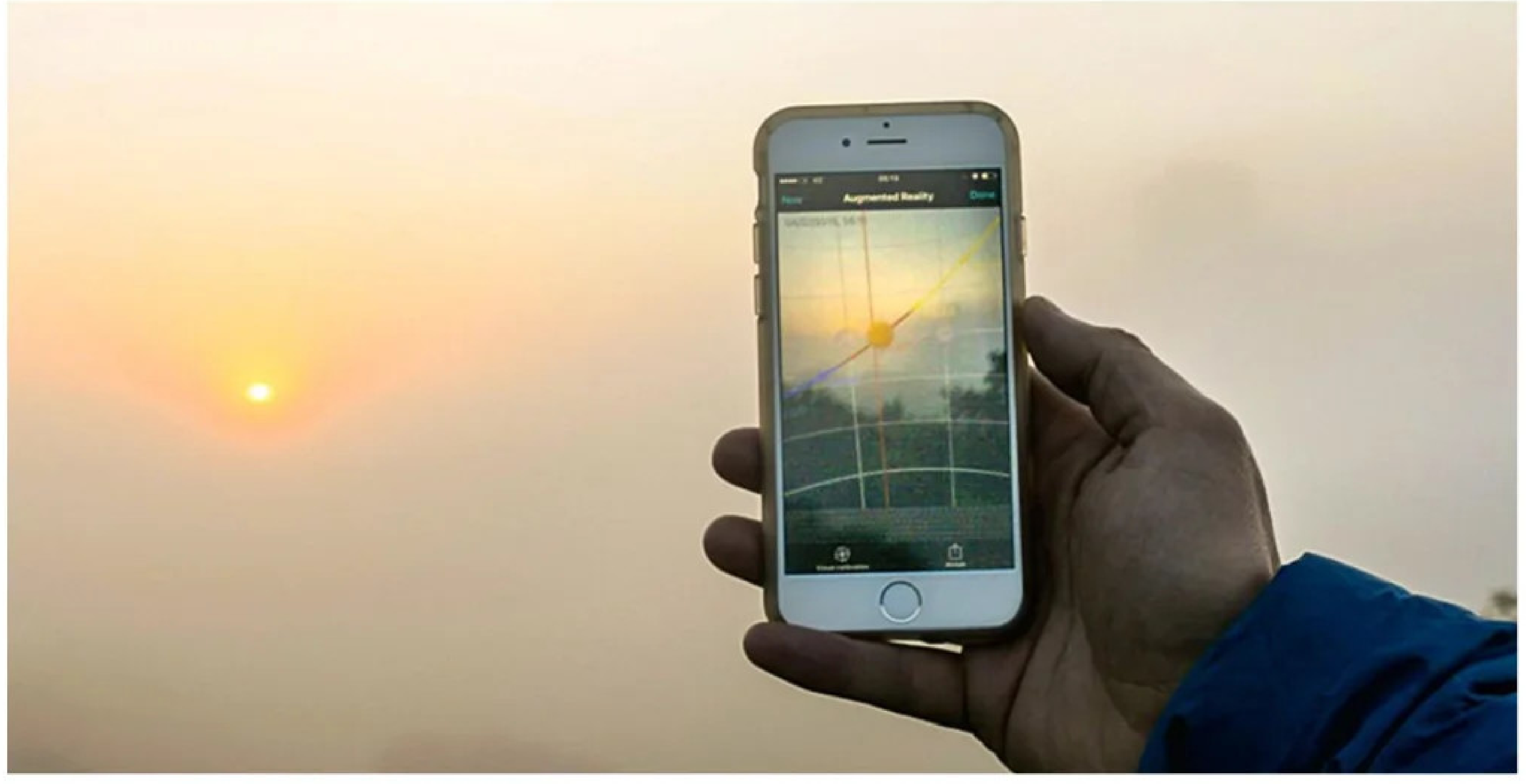
01 Check the weather

First, check the weather. Ideally you want partial cloud. If it's miserable and wet, stay in bed! Next, check the time of sunrise. There's a moment when the colours are at their peak, but it lasts for minutes at most, so be ready.


Moon
A351
A351

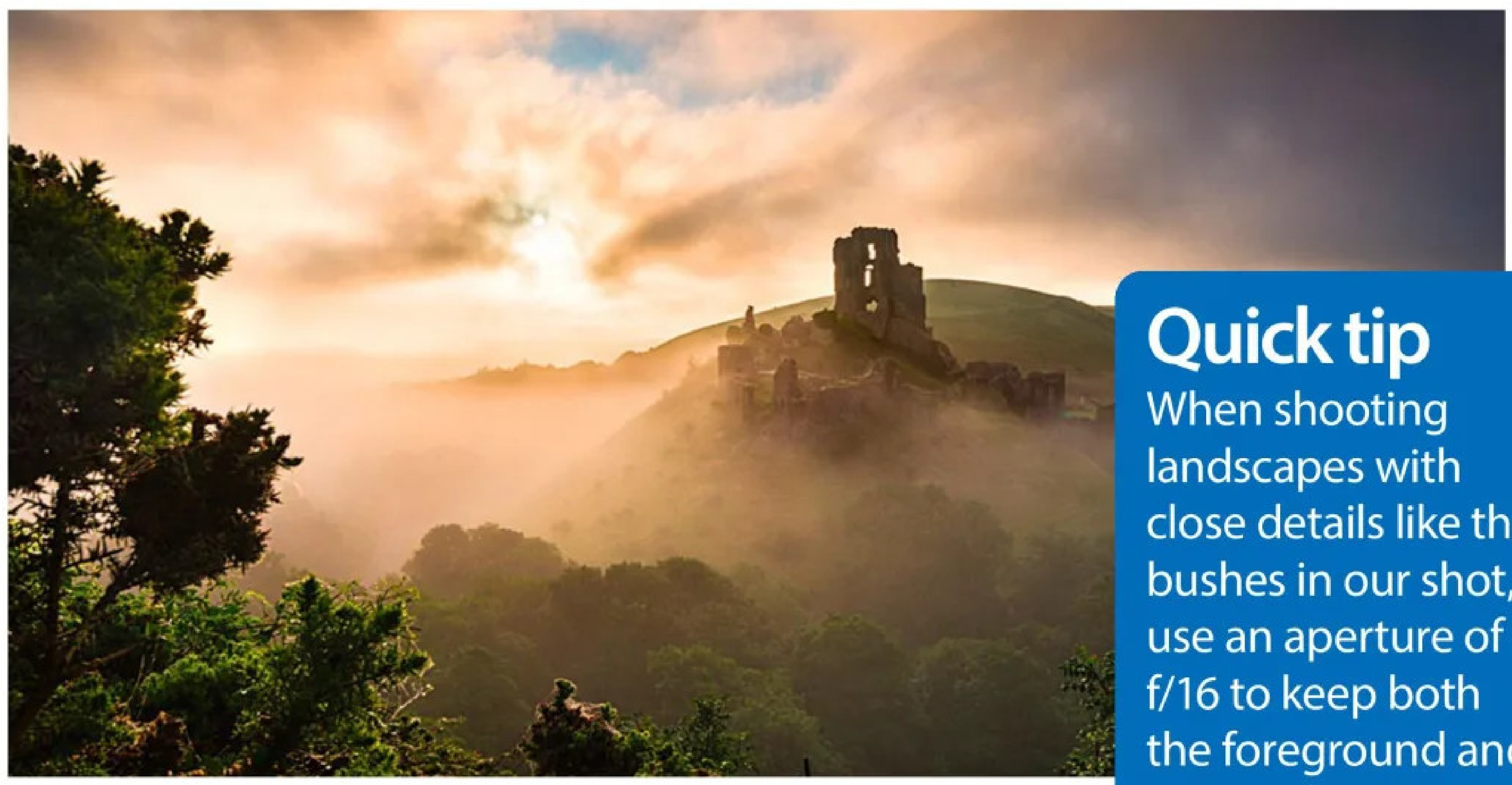
02 Plan your position

Use Google Maps to scout out the location. Here a hill to the west of our subject offers an elevated position. Now open the PhotoPills app (or the Photographer's Ephemeris app) and check the sunrise angle.



03 Check the position

Upon arrival, check the position of the sun using PhotoPills' augmented reality mode. Patience might be needed: Corfe Castle here was initially shrouded in mist, but 20 minutes later, the mist had cleared just enough.



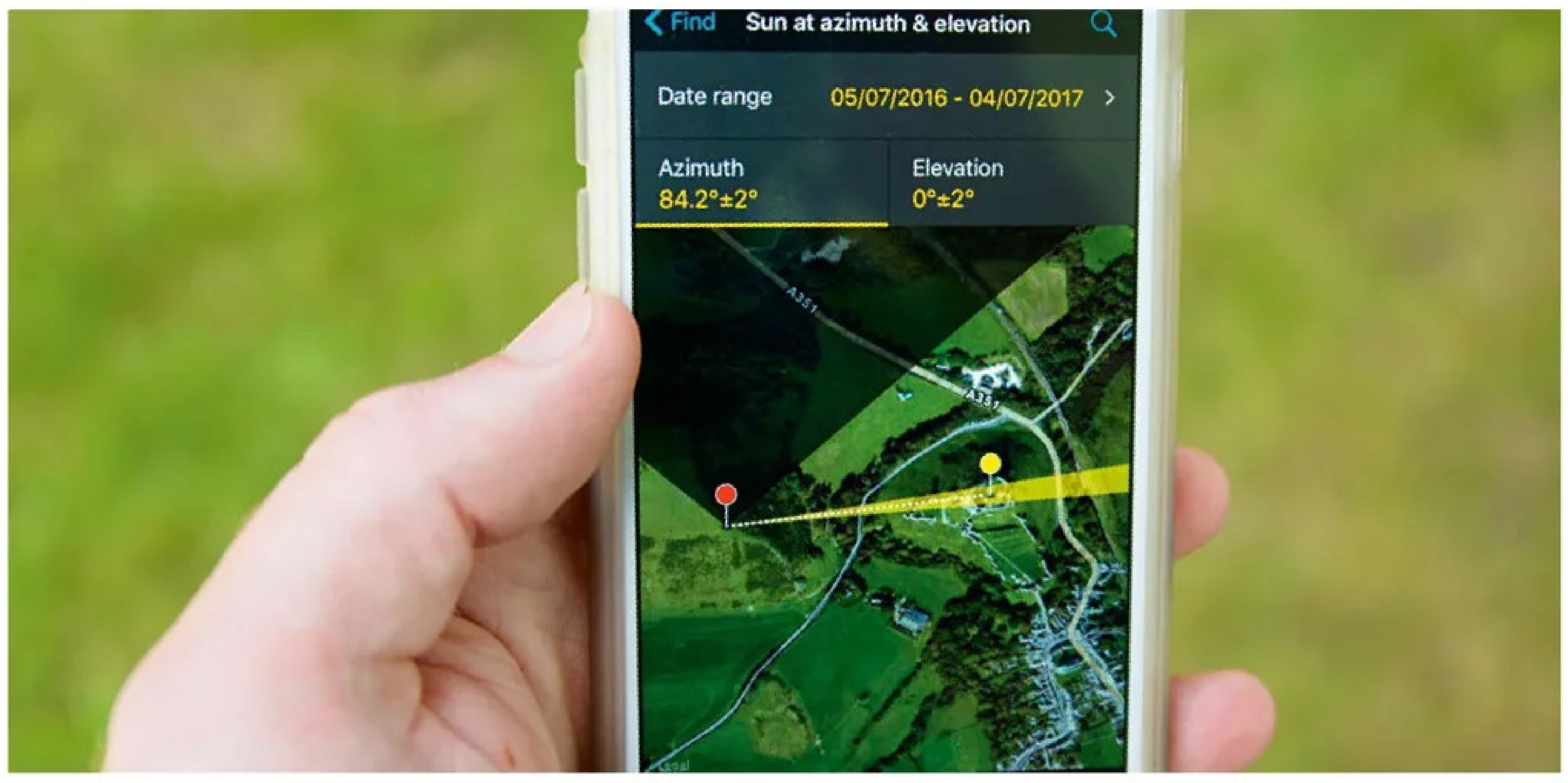
04 Compose the shot

Keep the camera off the tripod at first; this will free you to experiment with framing. As well as the sun, include foreground details. Focus one-third of the way in (or use PhotoPills to obtain the hyperfocal distance) and shoot.

Quick tip

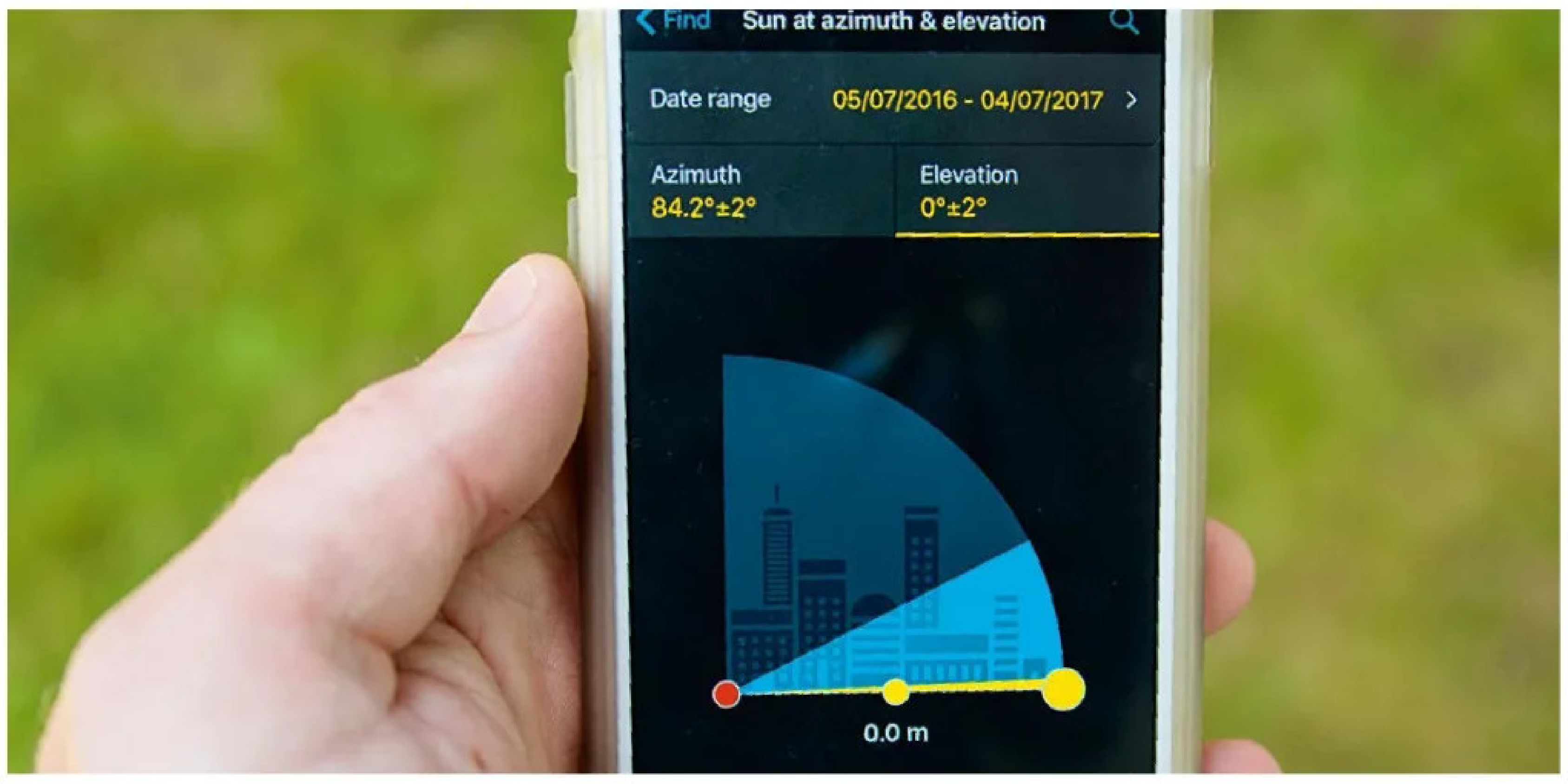
When shooting landscapes with close details like the bushes in our shot, use an aperture of f/16 to keep both the foreground and distant details sharp

Step by step Chart the sun


Find
Sun at azimuth & elevation
Date range 05/07/2016 - 04/07/2017
Azimuth 84.2°±2°
Elevation 0°±2°

05 Choose a date range

The sun might appear at a better angle at a different time of year. To check, open PhotoPills and choose Planner. Hit Find and set a date range. Pick an azimuth, which is the number of degrees away from due north. The clear part shows all the angles that are available.


Find
Sun at azimuth & elevation
Date range 05/07/2016 - 04/07/2017
Azimuth 84.2°±2°
Elevation 0°±2°
0.0 m

06 Set the elevation

Now set an elevation. Again, the shaded area shows the elevations that aren't available. For sunrise the angle will be be very low, so this'll be 0 degrees. Hit Search to see all the days on which this angle of view is possible – in this case, for a few days in late August and mid April.

Capture light trails

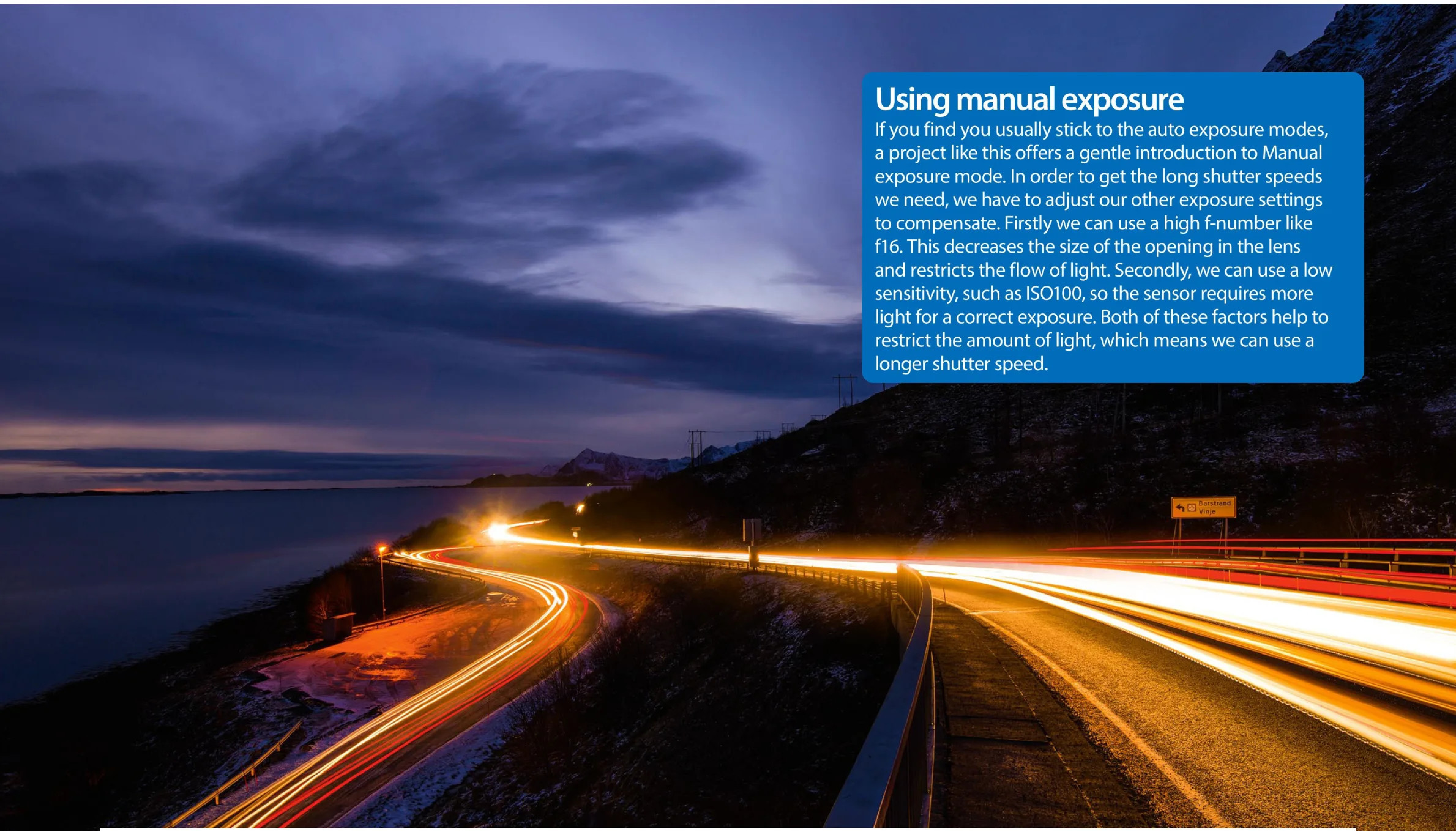
Capture images that transform passing vehicles into glorious streaks of colour

We photographers have a bit of a love/hate relationship with movement. Sometimes it's a real pain and we strive to keep it to a minimum. At other times, we want to celebrate it in all its blurry glory. The motion of traffic at night definitely falls into the latter category. By using a long exposure in the low evening light, the smooth motion of their lights creates wonderful streaks of colour through the frame.

This is one of those camera skills that reveals the magic of photography – and the best part is, it's easy! Anyone with a DSLR and tripod can do it. As such, it's a great way to get started with long-exposure photography as there's no need for extra filters or even a cable release.

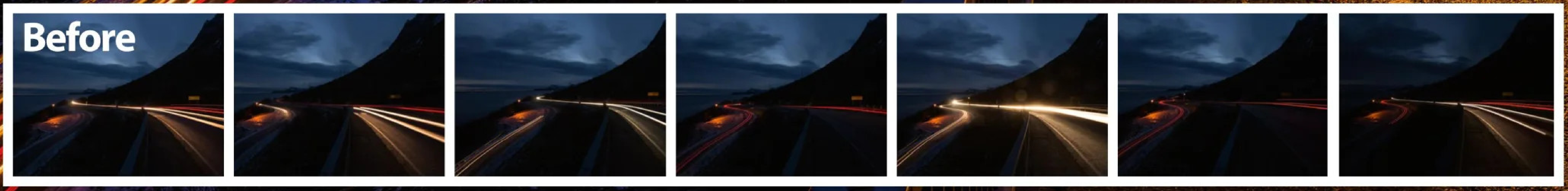
The challenge is finding an interesting composition for your shot. Winding roads and mountainous scenery work perfectly, but why not try a multi-lane motorway, city street, or a knotty junction? Another challenge is timing – we want a decent array of lights but at night, especially, traffic can be rather sparse. However, you can always shoot several frames then combine them with simple editing skills, as we'll explain...

> "This is one of those camera skills that reveals the magic of photography – and it's easy!"



Using manual exposure

If you find you usually stick to the auto exposure modes, a project like this offers a gentle introduction to Manual exposure mode. In order to get the long shutter speeds we need, we have to adjust our other exposure settings to compensate. Firstly we can use a high f-number like f16. This decreases the size of the opening in the lens and restricts the flow of light. Secondly, we can use a low sensitivity, such as ISO100, so the sensor requires more light for a correct exposure. Both of these factors help to restrict the amount of light, which means we can use a longer shutter speed.



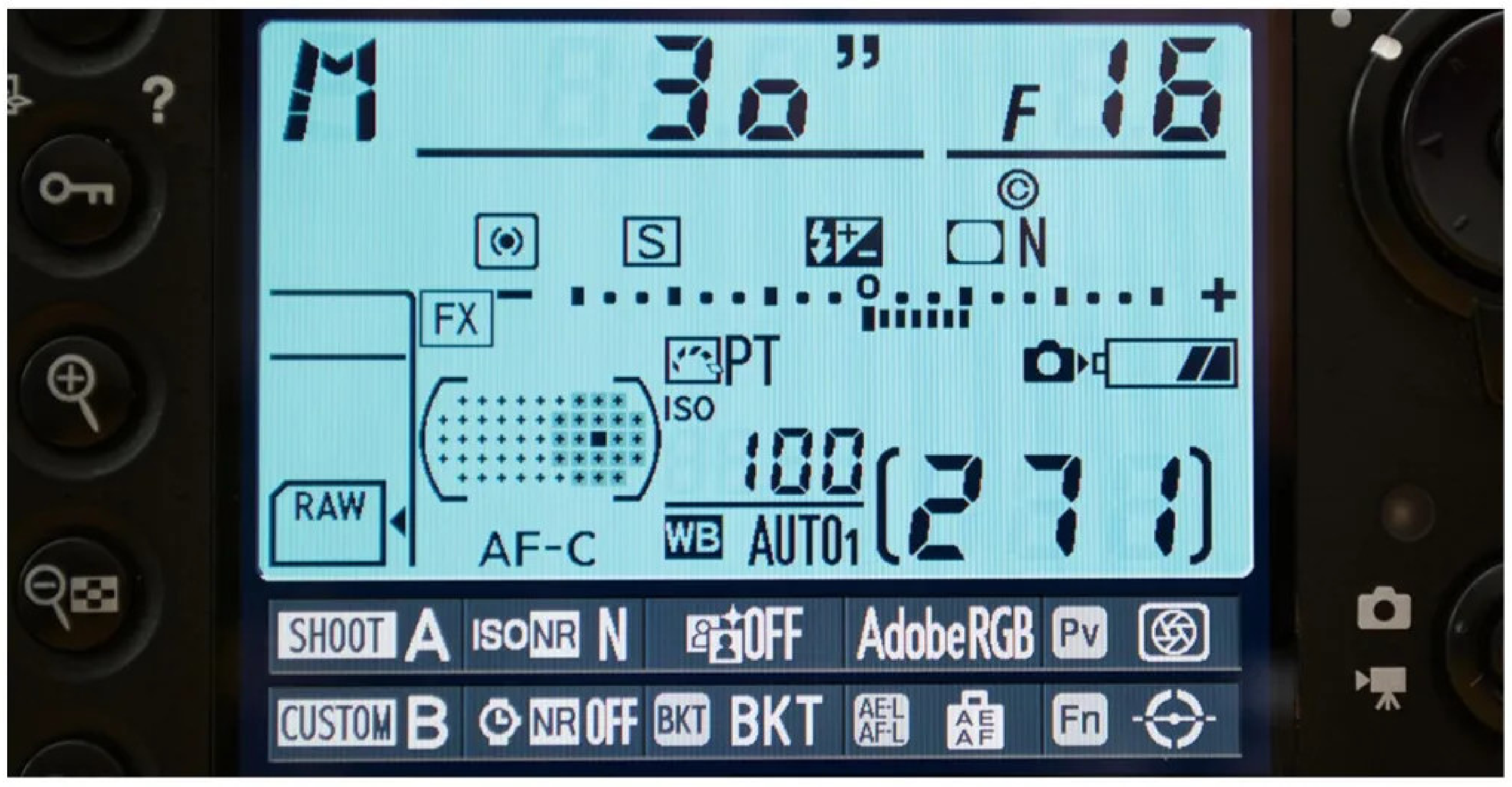
Step by step Take sharp photos in low-light conditions

01 Get set up

Fix your DSLR to a tripod. Look for an angle where the winding road begins close up then recedes into the distance, as this'll make more interesting lines than, say, a side-on view. Try a low-down or high-up view, and frame loosely to account for different-height vehicles.

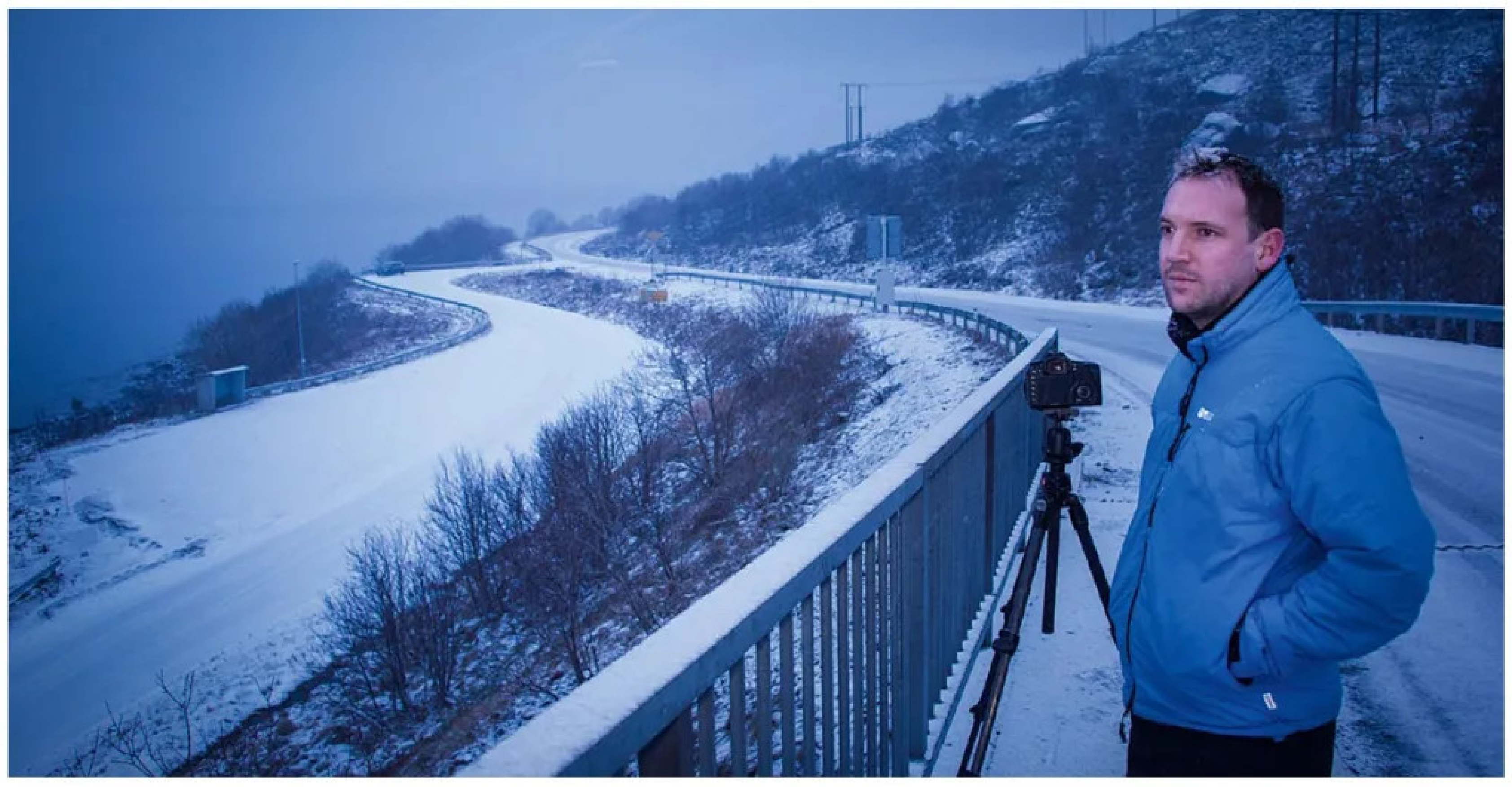
02 Switch to manual

Rather than shooting in pitch dark, try just after sunset so there's still detail in the sky. Even so, autofocus can struggle to lock on in low light, so focus on a point a third of the way into the scene and then switch to manual focus to lock it. This'll prevent hunting between frames.


M 30" F16
FX
ISO 100
AF-C
RAW
WB AUTO1
[271]
SHOOT A
ISO NR N
OFF
AdobeRGB
Pv
CUSTOM B
NR OFF
BKT BKT
AE-L AF-L
Fn

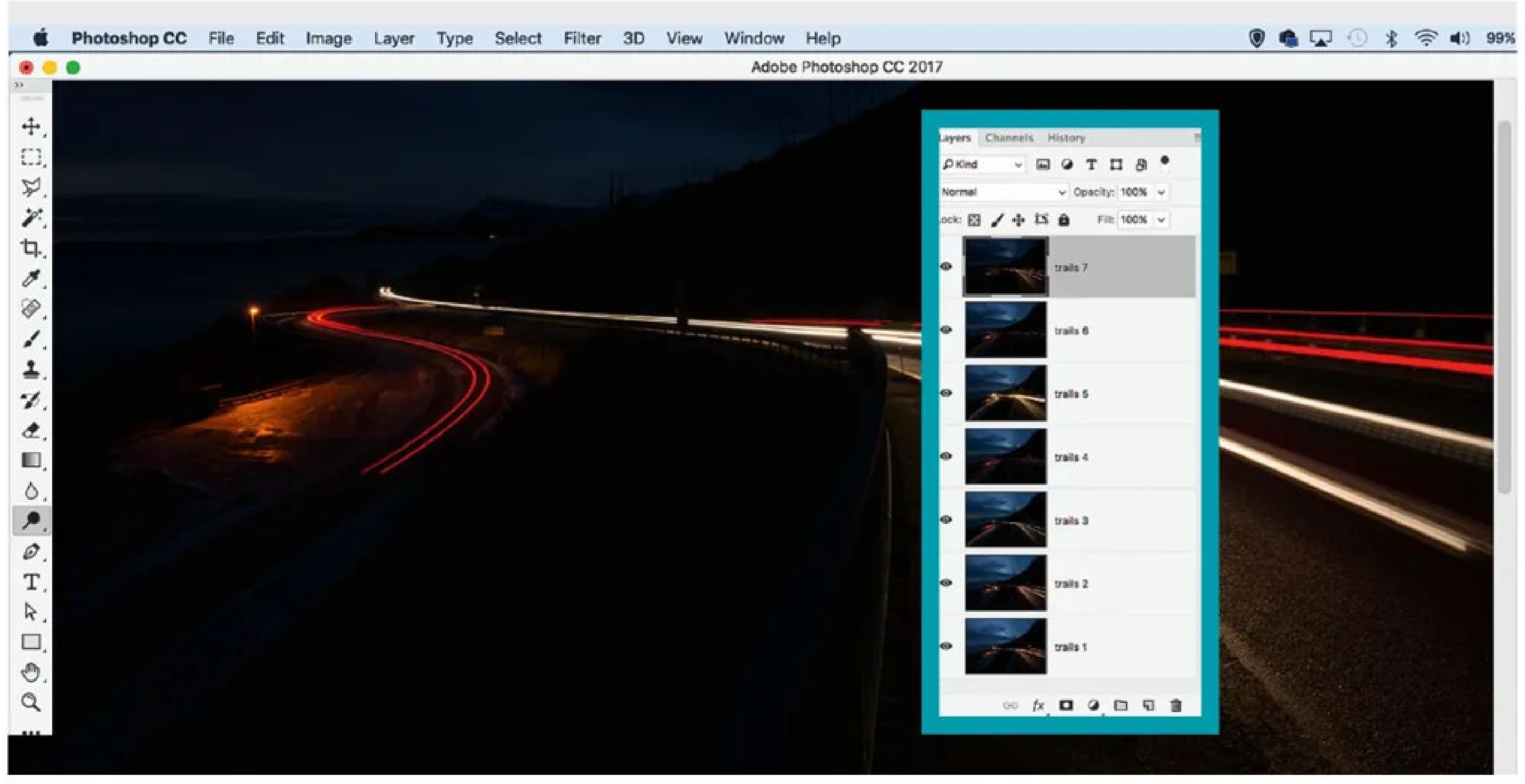
03 Set your exposure

Switch your DSLR to Manual exposure mode. All scenes are different, but here's a good starting point for exposure: set the aperture to f16, shutter speed 30 secs and ISO100. If the image is too bright or dark, try adjusting the aperture until you're happy.



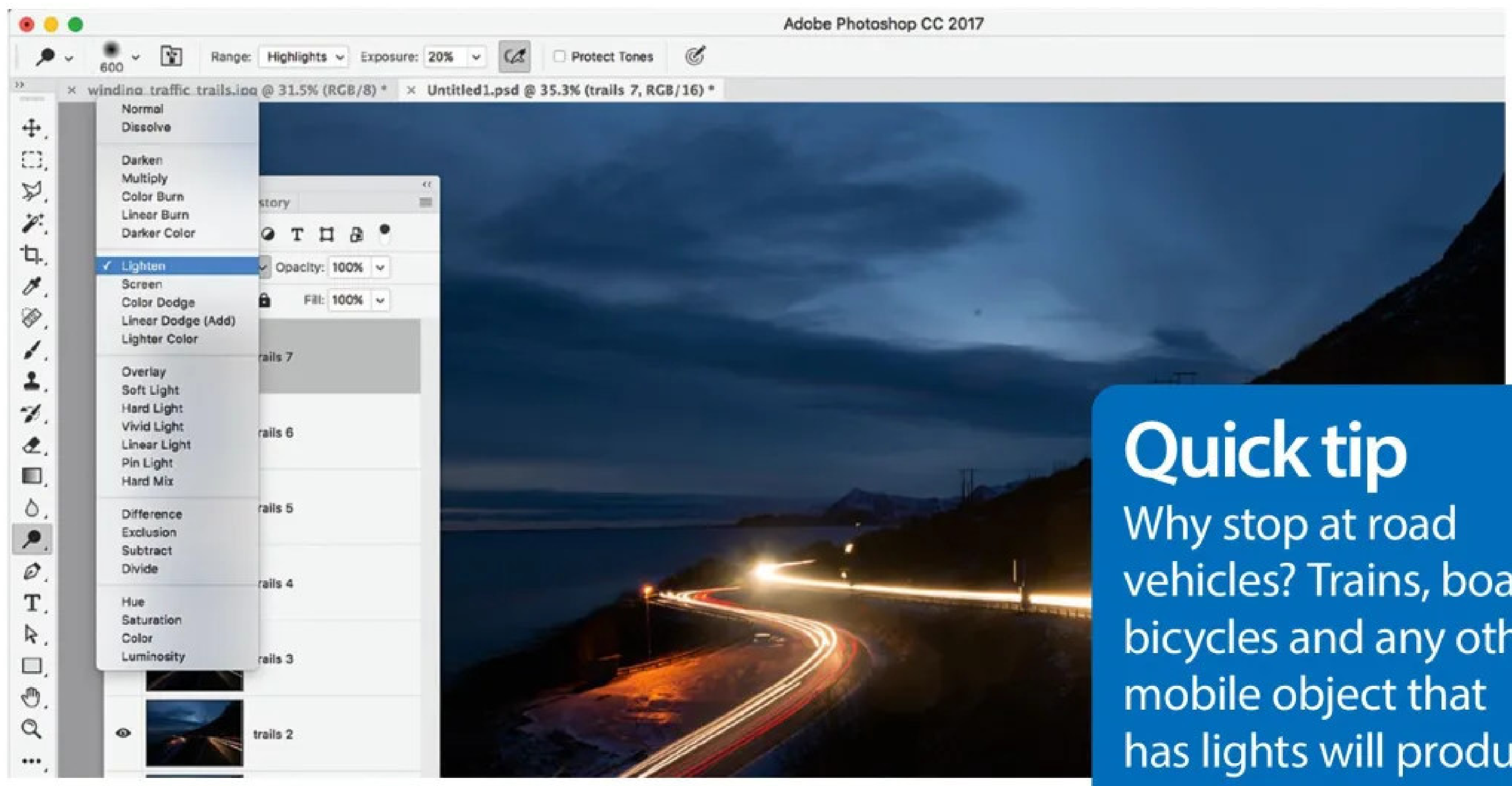
04 Time it right

Shoot plenty of frames as vehicles zoom by. Differences in height make the trails more varied (as will flashing lights, which appear as dashes). Take care not to nudge the camera between shots, as we need all the frames to be in alignment if we intend to blend them together.


Photoshop CC File Edit Image Layer Type Select Filter 3D View Window Help
Adobe Photoshop CC 2017
Layers Channels History
Kind
Normal
Opacity: 100%
Fill: 100%
trails 7
trails 6
trails 5
trails 4
trails 3
trails 2
trails 1

05 Combine several images

Open all the images you want to use (we blended seven) in Photoshop. Choose one frame as the base image, then go to another image, Select All (Cmd/Ctrl+A), Copy (Cmd/Ctrl+C) then go back to the base image and Paste (Cmd/Ctrl+V). Repeat for all the other images.


Adobe Photoshop CC 2017
Range: Highlights
Exposure: 20%
Protect Tones
winding traffic trails.jpg @ 31.5% (RGB/8) *
Untitled1.psd @ 35.3% (trails 7, RGB/16) *
Normal
Dissolve
Darken
Multiply
Color Burn
Linear Burn
Darker Color
✓ Lighten
Screen
Color Dodge
Linear Dodge (Add)
Lighter Color
Overlay
Soft Light
Hard Light
Vivid Light
Linear Light
Pin Light
Hard Mix
Difference
Exclusion
Subtract
Divide
Hue
Saturation
Color
Luminosity
Opacity: 100%
Fill: 100%
trails 7
trails 6
trails 5
trails 4
trails 3
trails 2

06 Blend the layers

Go to the Layers panel (Window>Layers) then change the blending mode of all layers to Lighten, which effectively lets us overlay the trails on top of one another. If any other areas, like the sky, look messy, use a layer mask or the eraser to remove them from the mix.

Quick tip

Why stop at road vehicles? Trains, boats, bicycles and any other mobile object that has lights will produce similar results.

Shoot a bug's eye view

Get down low with this quick botanical photography project that will give you a unique view of nature

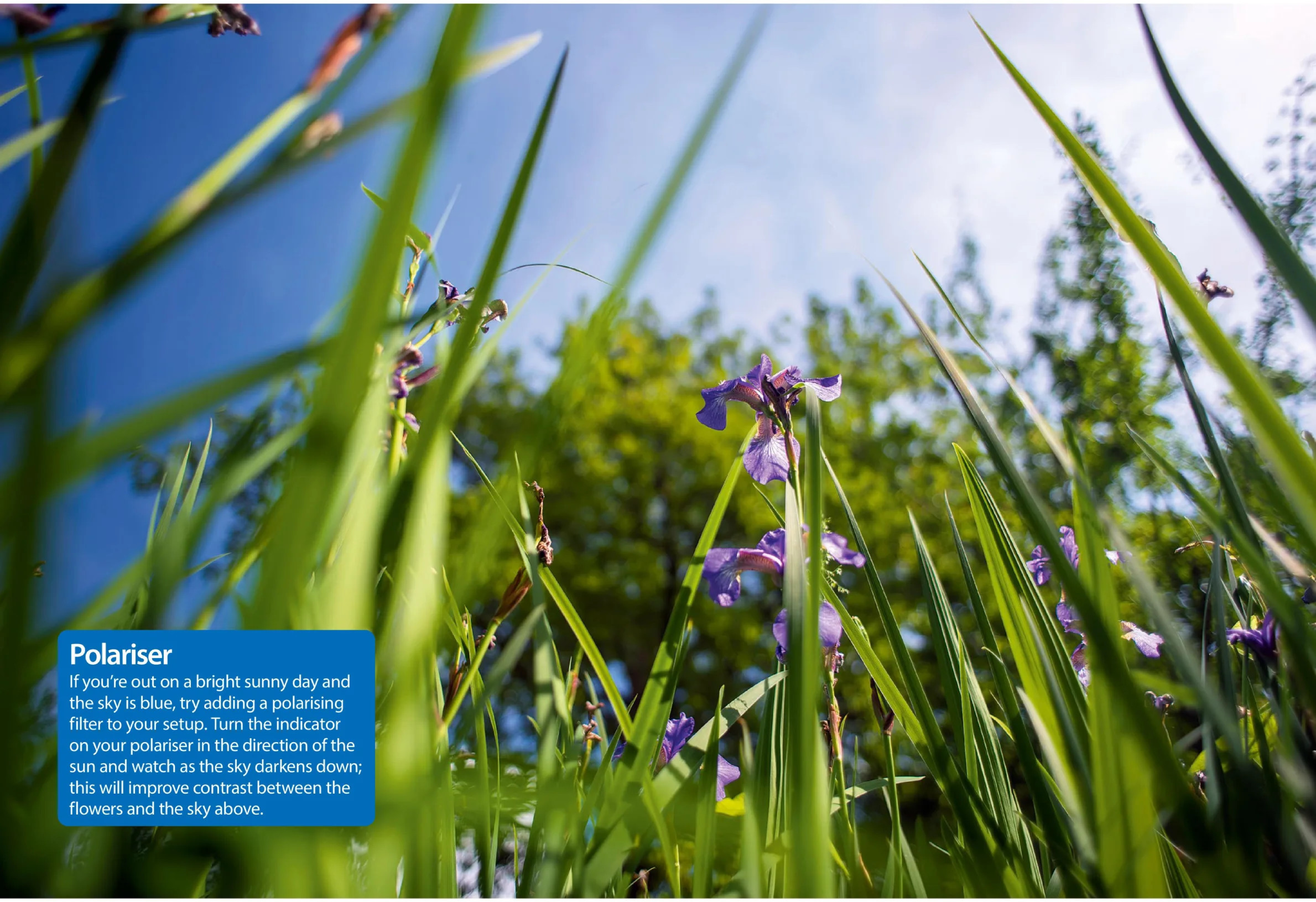
We've freshened up our botanical photography with this handy little project to give our shots a completely new perspective. We nestled our Nikon in amongst the ferns in a shaded woodland, and used a wide-angle lens to accentuate the feeling of crawling amongst the leaves.

The trick is to get the Nikon as low down as possible and aim it skyward, preferably with the sky shaded by the canopy above. Head out on a sunny day, but aim for a shaded spot away from direct sunlight. Trees provide good cover, but opt for the edge of a forest where it's brighter as the light falls off the further into a forest you go. In the shade the shadows are soft and flattering; gone are the bright highlights and dark shadows of the contrasty direct light.

We looked for trees and ferns that would frame our shot, and short bluebells added a much-needed splash of cool blues to the lower-third of our frame.

There are many varieties of plant life around in the spring and summer months, and it doesn't take that long to get your shot, so it makes the perfect project to take on when you have half-an-hour or so spare.

> "The trick is to get as low as possible and aim skyward, preferably shaded by the canopy"



Polariser

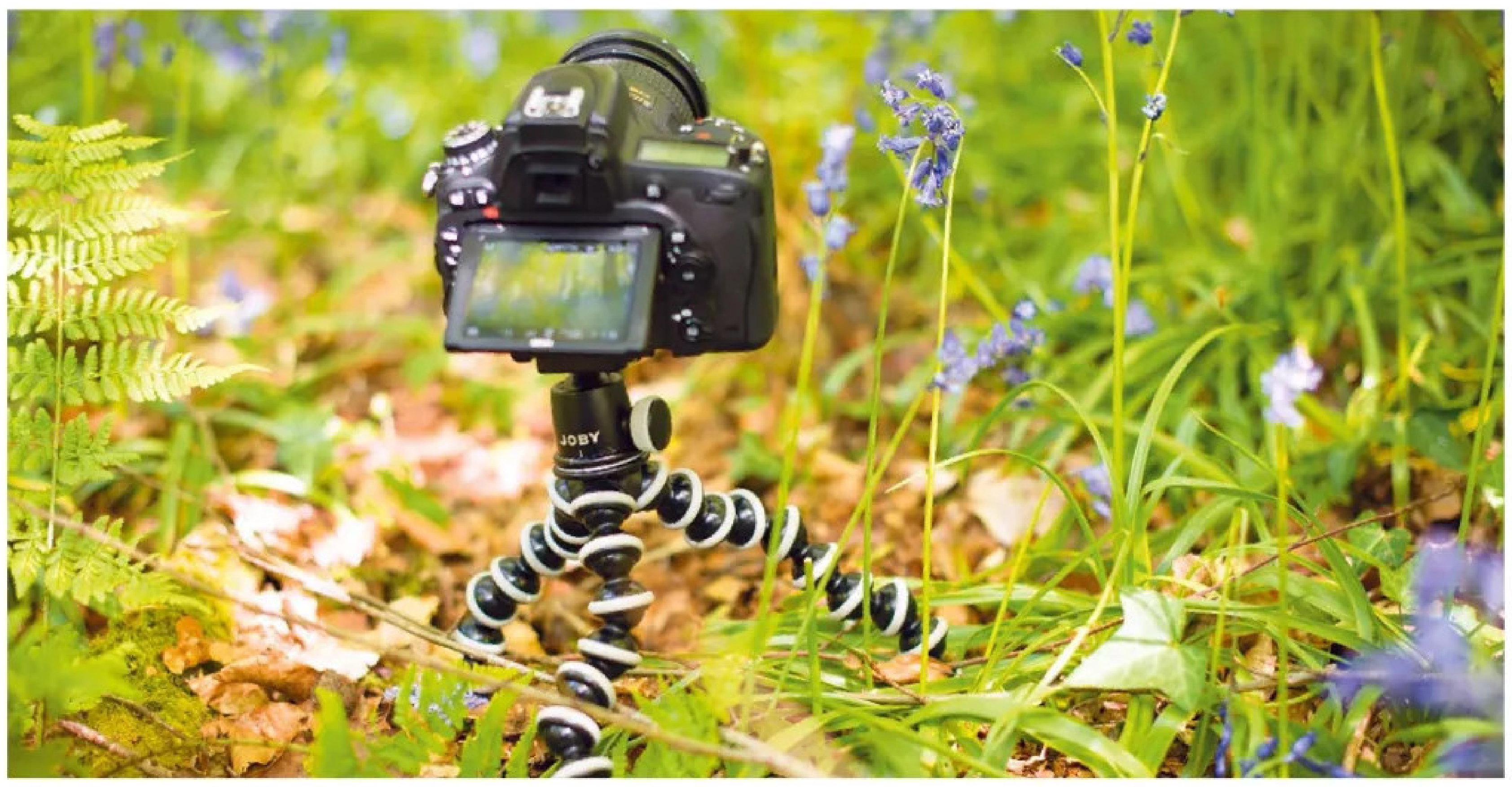
If you're out on a bright sunny day and the sky is blue, try adding a polarising filter to your setup. Turn the indicator on your polariser in the direction of the sun and watch as the sky darkens down; this will improve contrast between the flowers and the sky above.

Step by step Get the low down

Nikon
AF-S NIKKOR 24-85mm 1:3.5-4.5G
ED
VR

01 Go wide

A wide-angle lens fits in more of the scene and therefore more flowers. They naturally have some pincushion distortion, and that distortion can evoke a sense of being a small amongst the undergrowth, looking up at the flowers. Anything wider than 35mm will be perfect.



02 Stay steady

A great bit of kit to keep your Nikon steady while low to the ground is to use a mini-tripod. The Joby DSLR Gorillapod can hold a Nikon along with a small lens with ease, and the legs can be bent into any kind of shape, making it easy to get a low angle shooting upwards.

M
1/15
F4
100
Nikon

03 Get a better view

Engage Live View to see better without having to peer awkwardly through the viewfinder. A Nikon with an articulated screen (such as the D750, D7500 or D5600) makes things much easier. Don't have an articulated screen? We're afraid it's lying in the mud for you!

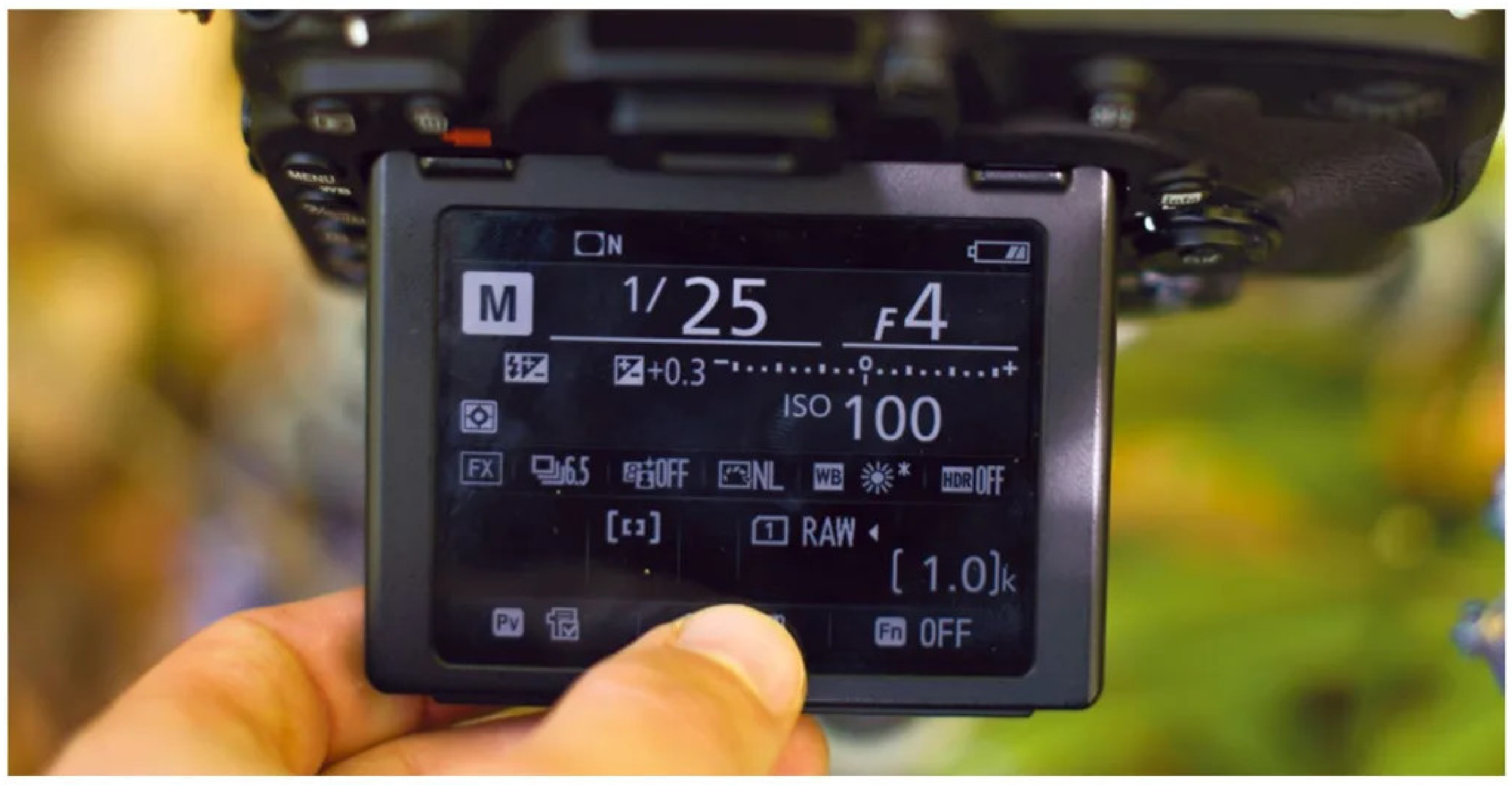
OFF
ON
25
F4
ISO
100

04 Blur the background

A wide aperture, such as f4, decreases your depth of field, which means when you focus on that closest flower, more of the flowers behind it will be blurred out. It was bright on the day we shot, so we kept our ISO at 100 and set Manual exposure mode.

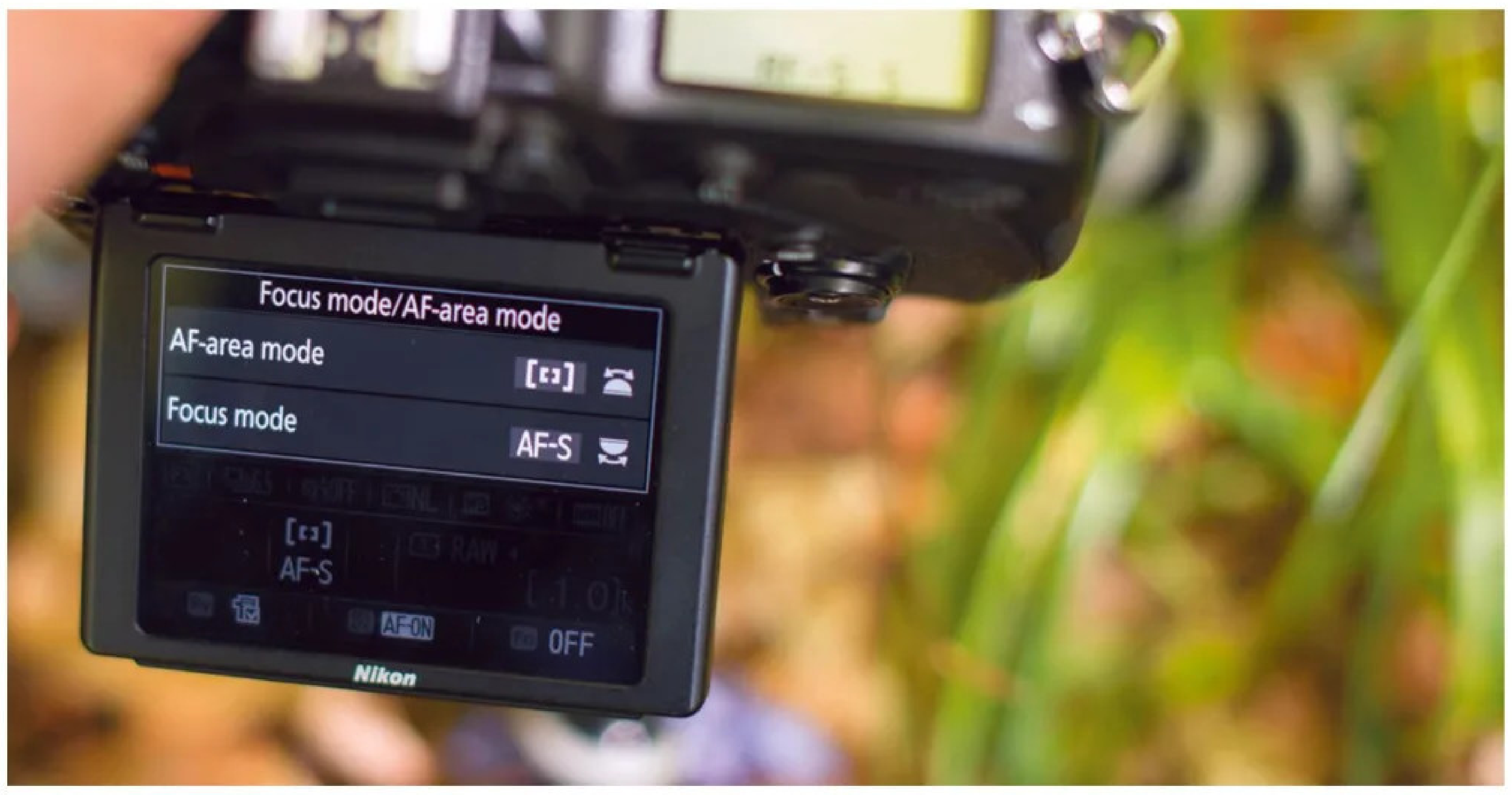
Quick tip

Hold back any extraneous leaves that pop into frame, as a clearer foreground will make your composition look more deliberate. But take care not to damage the plants.



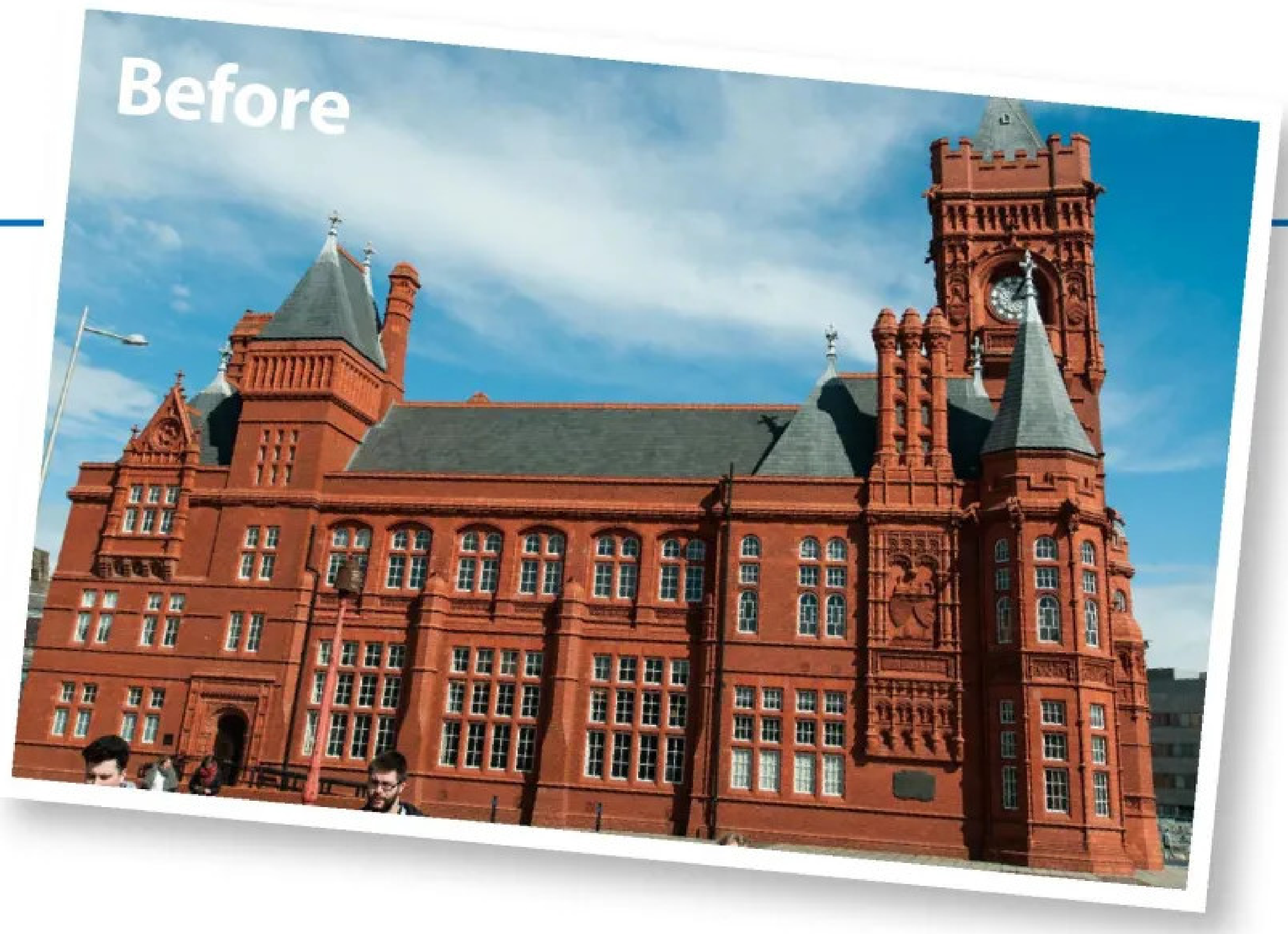
05 Meter to zero

To correctly balance the light in your image, engage Matrix metering; this takes an average reading across the whole frame, from bright highlights to dark shadows. You don't want to blow out the sky so aim to hit 0 on the light meter; our resultant shutter speed was 1/25 sec.



06 Set the AF point

Choose single AF point or group mode autofocus in the custom setting menu, then move the AF point on the LCD screen until you're focused on your nearest flower. If it's windy, take the shot immediately after focusing or your flower may move and become out of focus.



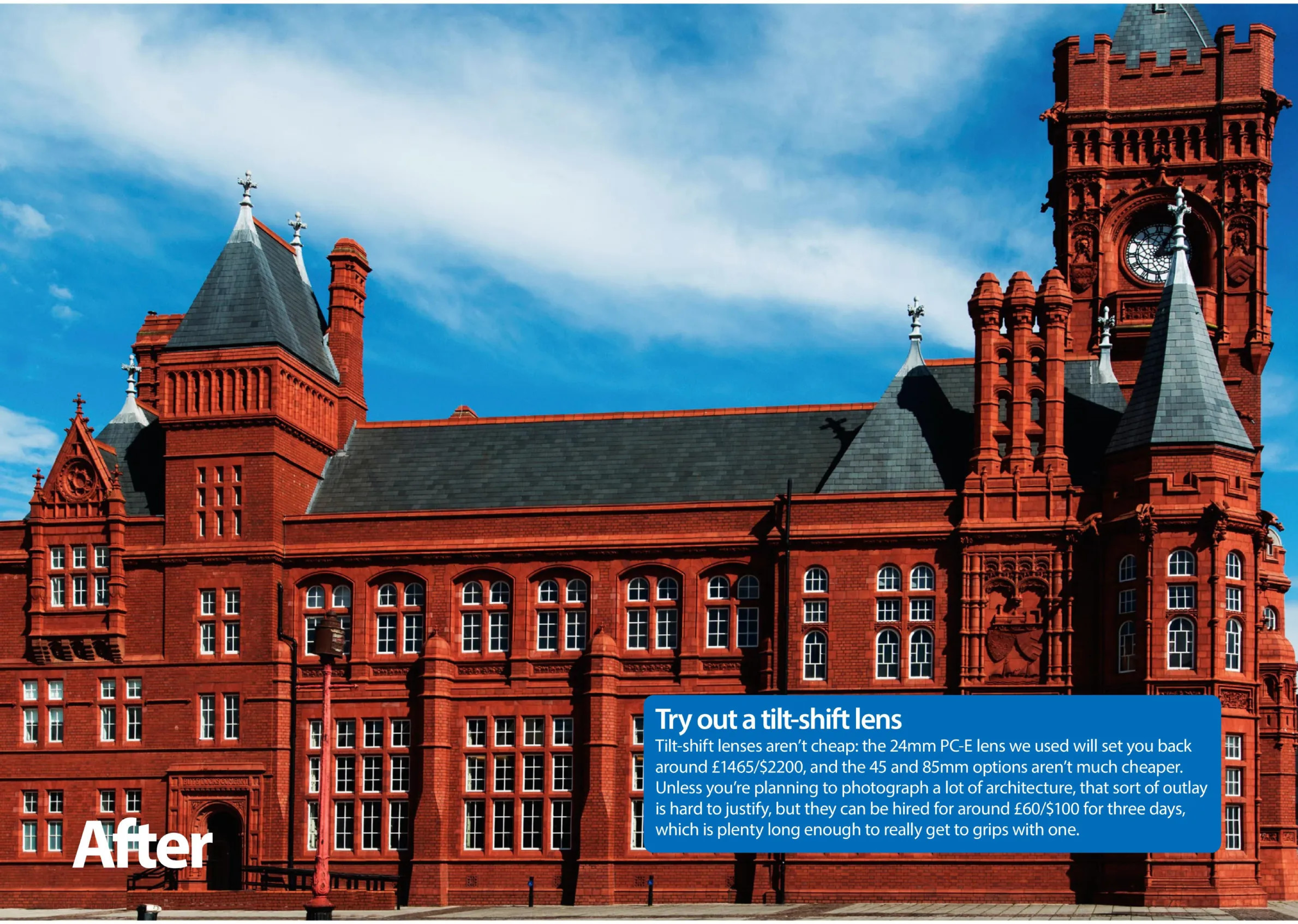
Shift a building

Get to grips with a tilt-shift lens's shift function, so you can bring architecture back into line

Tilt-shift lenses – Nikon calls them Perspective Control, lenses – have their origins in large-format cameras which feature a lens at one end and a sheet of film or sensor at the other, and a flexible bellows in between that allows both to be moved independently. The advantage of this, at least for architectural photography, is that the lens can be 'shifted' so that the sensor covers the top of a tall building without having to tilt the camera upwards.

Here's how it works: you start by pointing the lens horizontally at a building, so that the verticals are perfectly vertical. At this stage, your frame will include the ground in the bottom half of the frame, and the building in the top (assuming you're shooting from street level). But because the image circle of a lens is much bigger than the sensor, you can physically shift the lens so that the sensor covers the building and not the building and the ground.

"The lens can be shifted up to include the top of a tall building without having to point it up"



Try out a tilt-shift lens

Tilt-shift lenses aren't cheap: the 24mm PC-E lens we used will set you back around £1465/$2200, and the 45 and 85mm options aren't much cheaper. Unless you're planning to photograph a lot of architecture, that sort of outlay is hard to justify, but they can be hired for around £60/$100 for three days, which is plenty long enough to really get to grips with one.

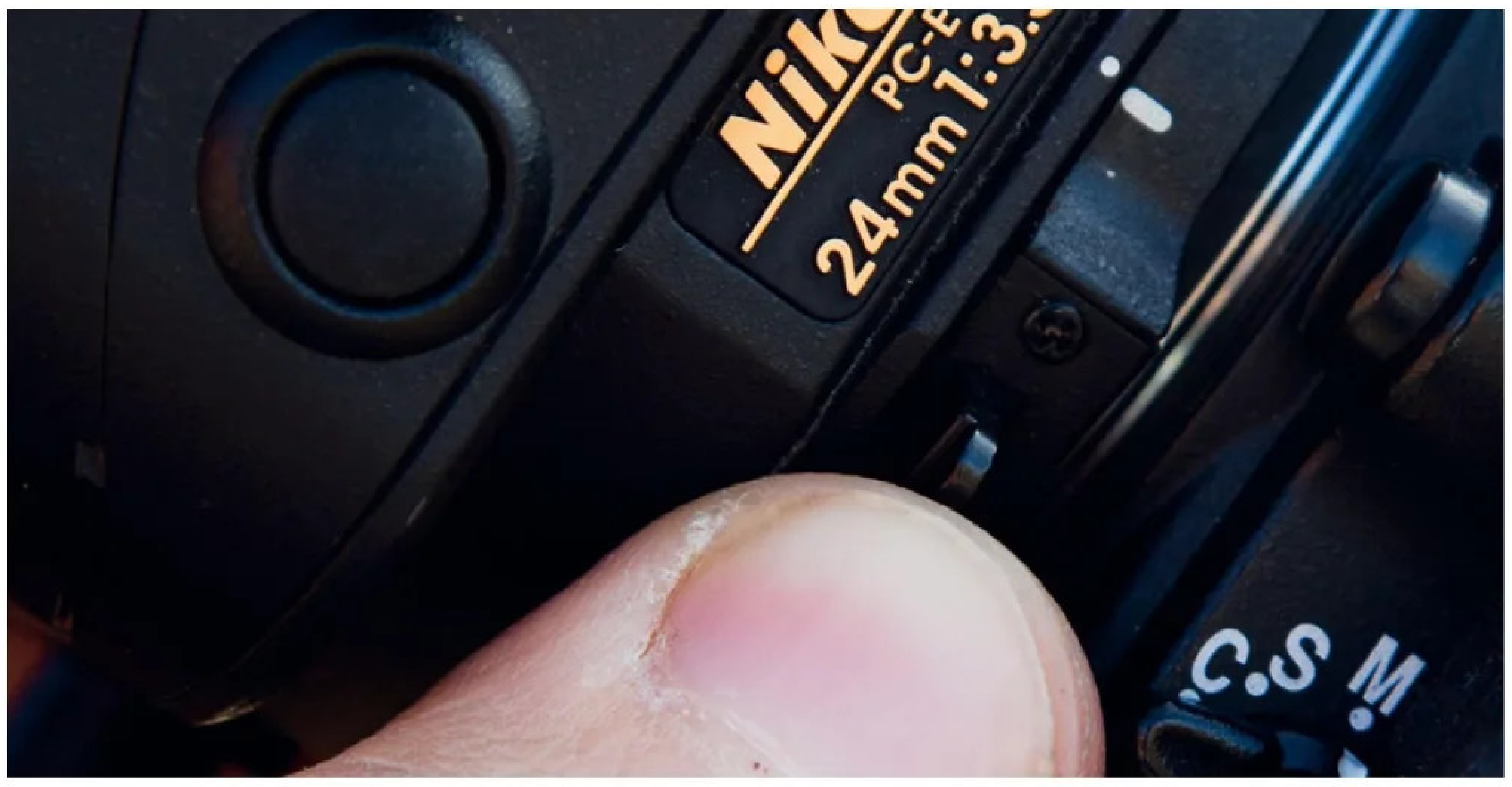
Step by step Straighten things out

01 Get in position

We used a 24mm lens, which on a DX sensor has an equivalent focal length of 38mm, so we had to stand far back to fit in a whole building. Take your focal length and your sensor's crop factor into account when choosing a subject. Position yourself squarely facing a building.

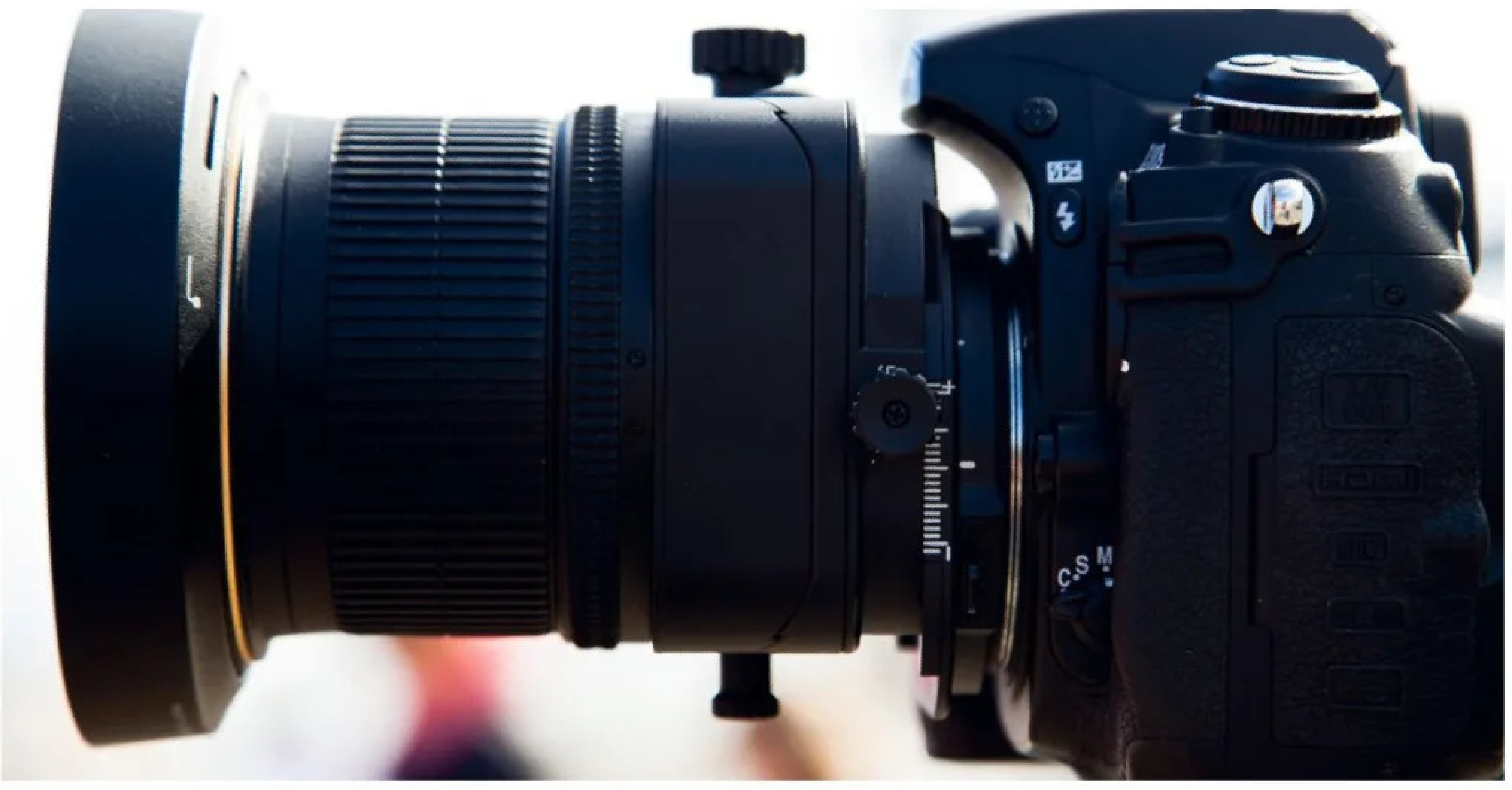
02 Steady yourself

Once you're in position, set up your Nikon on a tripod. This not only enables you to use low ISOs and narrow apertures for increased image quality, but will keep the camera in place, giving you time to think about your composition and check the focus using Live View.



03 Rotate if needed

Depending on whether you are shooting in landscape or portrait orientation, you may need to rotate your lens – the shift mechanism should move up and down, not side to side. This is done by pulling the catch on the left of the lens to unlock it, and then turning the lens.

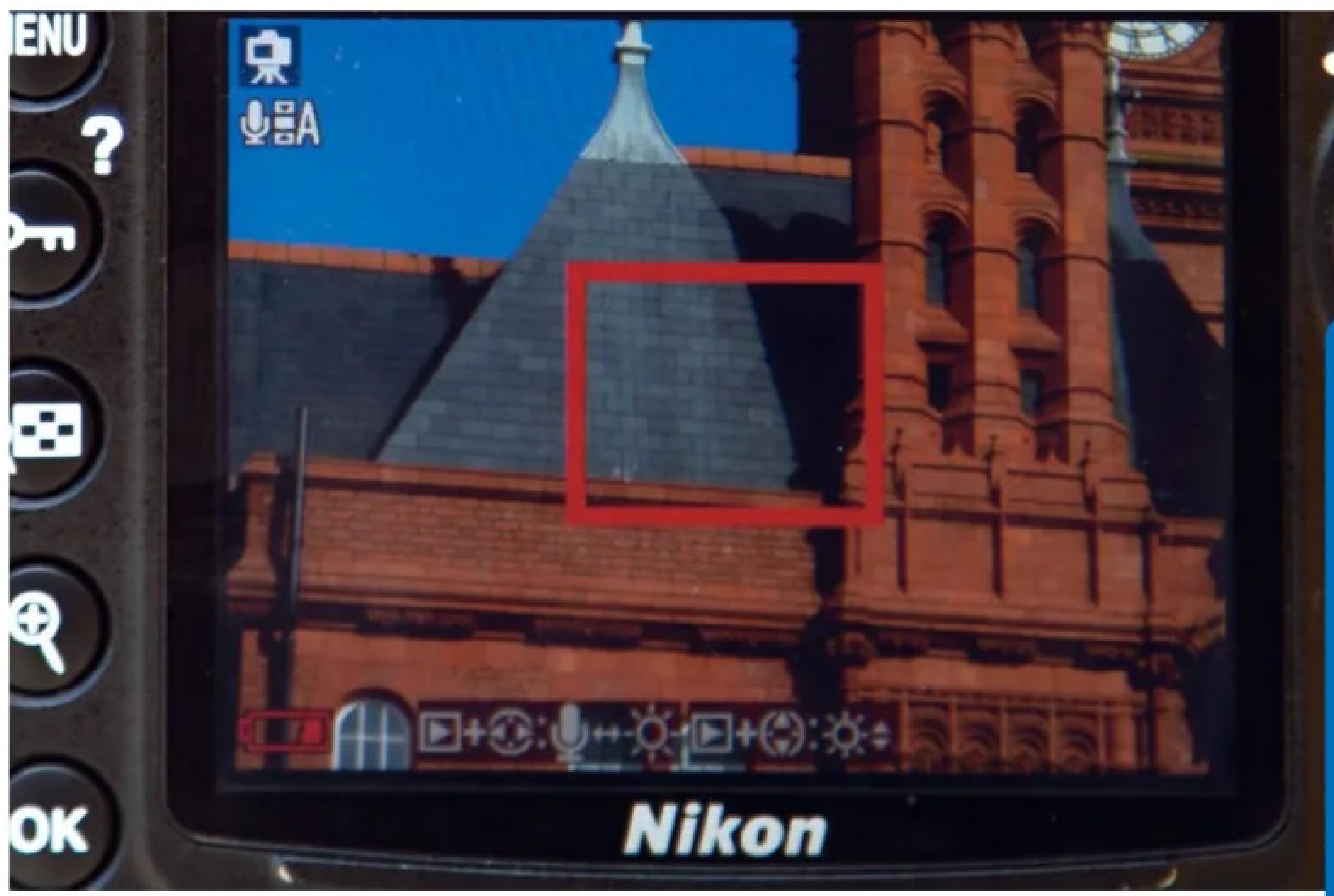


04 Shift it up

With your frame composed with the lens perfectly horizontal, turn the shift dial to move the lens up relative to the sensor. If you look through the viewfinder, you'll see the top of the building slide into view as you do this, but – crucially – the verticals will stay vertical.

05 Set the aperture

Set your Nikon to manual mode so you can keep control over the settings. Adjust the aperture via the ring on the lens. Set it to f16 for a deep depth of field. Your Nikon's metering system will still work, so you can use the exposure level indicator to set the shutter speed.



Quick tip

Shifting the lens to either extreme will reduce the amount of light hitting the sensor, so you may need to adjust the exposure to let in more light.

06 Focus in Live View

As you cannot see very well through the viewfinder when using a tilt-shift lens, once everything is set up on a tripod, switch to Live View. You can then digitally zoom in with the plus and minus buttons to focus manually using the focusing ring on the lens.

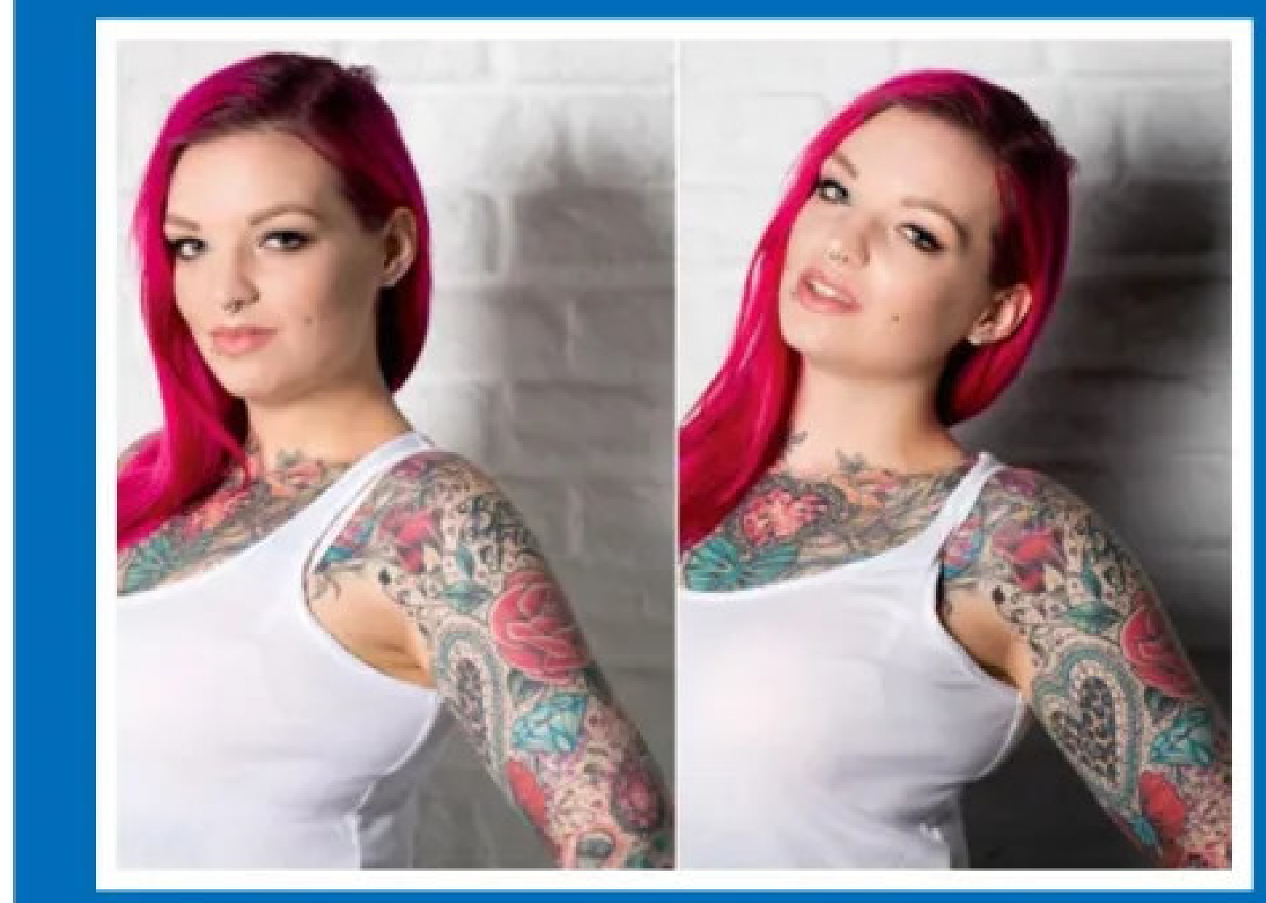
Get started with studio lights

Fancy setting up a simple home studio, but not sure where to start? We're here to help...

There's a certain clarity and crispness that you get with studio flash which simply can't be achieved any other way – look at the detail in the model's amazing tattoos here. For those getting started, things can seem a little daunting. But studio flash is no black art, just a combination of basic lighting principles and camera skills. You don't necessarily need a studio – any fairly large room will do – so the best place to start is with a home studio flash kit. A kit like this offer a range of benefits. First, it gives you control over the exposure. The high flash power means that you can use lower ISOs and consequently produce images with less noise.

Second, a studio flash kit effectively give you control over depth of field, as increasing or decreasing the power lets you open or close your aperture. The biggest advantage, however, is the control that studio flash gives you over the quality of light. You can choose whether it's diffuse or harsh, spread wide or in a narrow beam, and you can choose to have it emitting from any angle.

Softboxes or umbrellas?



Both of these modifiers will diffuse and soften the beam from a studio light, which is usually good for portraits. But there are subtle differences. In the shots below, see how the shadows change between the umbrella (left) and softbox (right). The shadow on the umbrella shot isn't as deep as the one created by the softbox. The reason for this is that umbrellas throw light everywhere, and it bounces off nearby surfaces. Portrait photographers tend to prefer softboxes as the spread is narrower and there's more control over the shadows. They also produce attractive square catchlights in the eyes.

Step by step Master the basics

01 Get set up

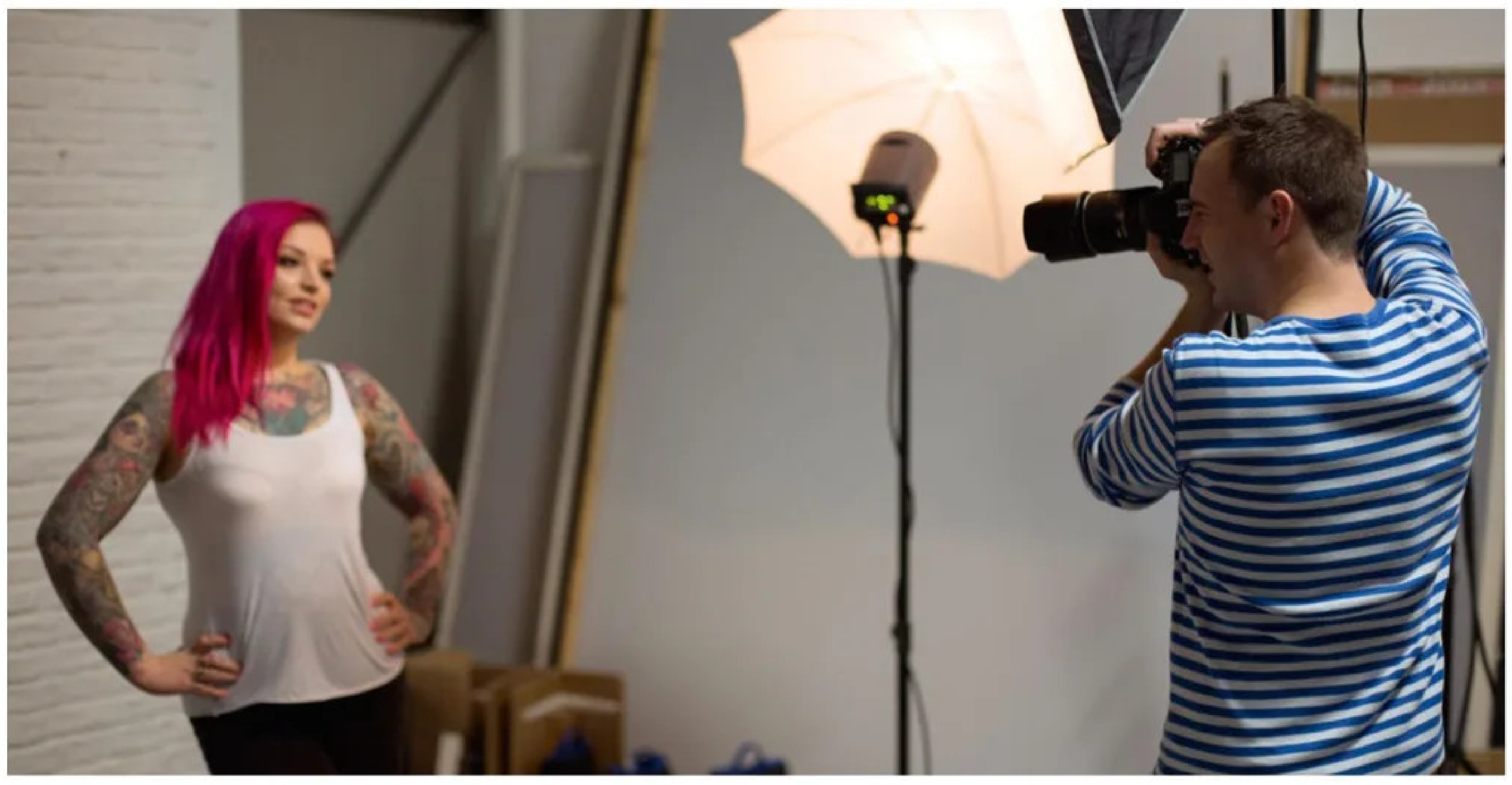
A typical home studio kit includes two heads, stands and modifiers. The flash is triggered either with a sync cable or wireless triggers. Once the heads are on their stands, attach the sync cable to one light and set the other to Slave so that it goes off when it detects the first flash.

02 Adjust the power

Most studio heads have a control that lets you increase or decrease the power. On this Elinchrom head it runs from 2 to 6. Each numeral is a stop difference. You can also change the distance between light and subject – halving the distance quadruples the strength of light.

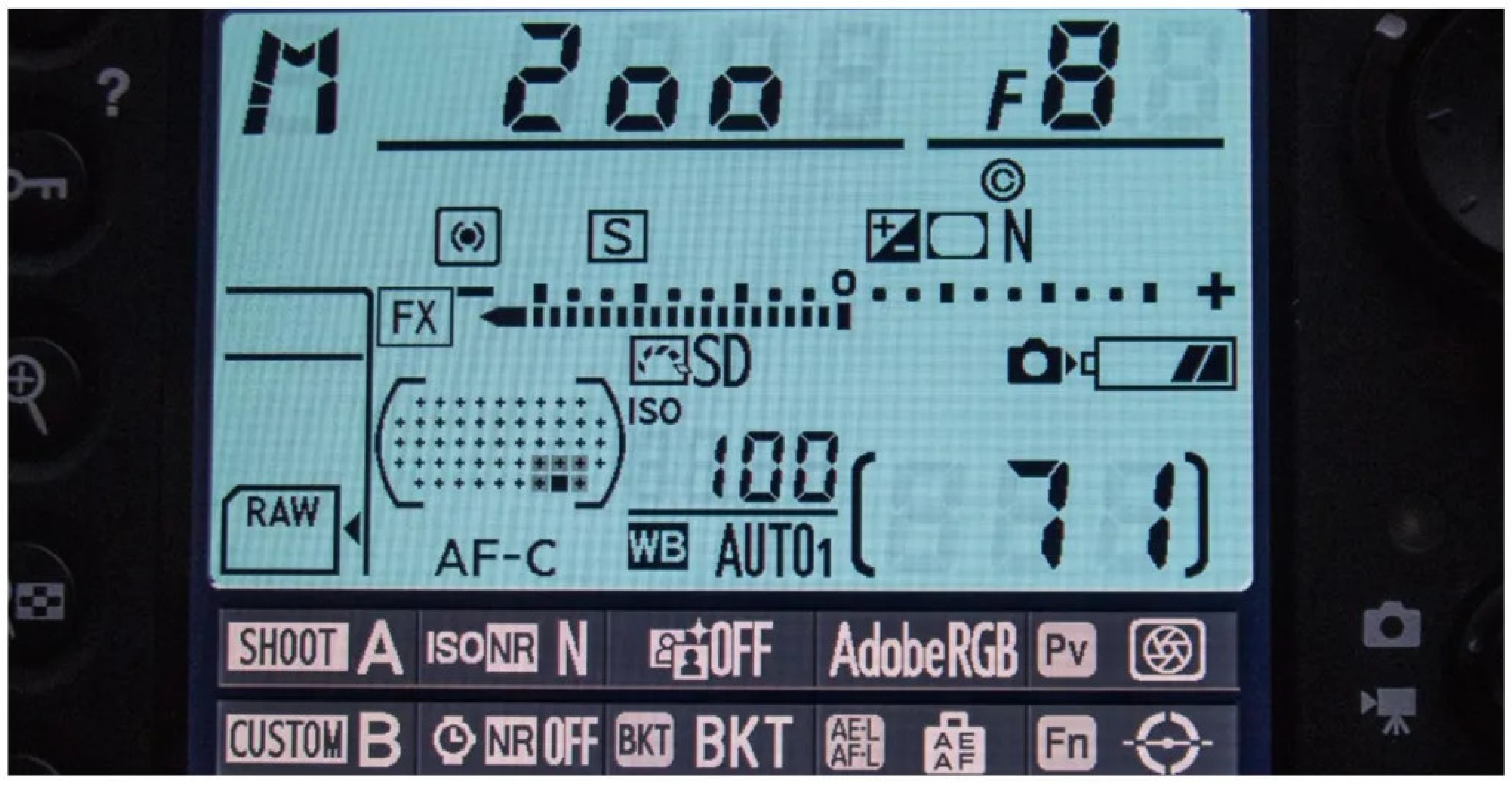
Quick tip

For close-ups like our main shot, bring your lights in tight so that they're just outside the frame. This increases their size in relation to the face and fills out the shadows.



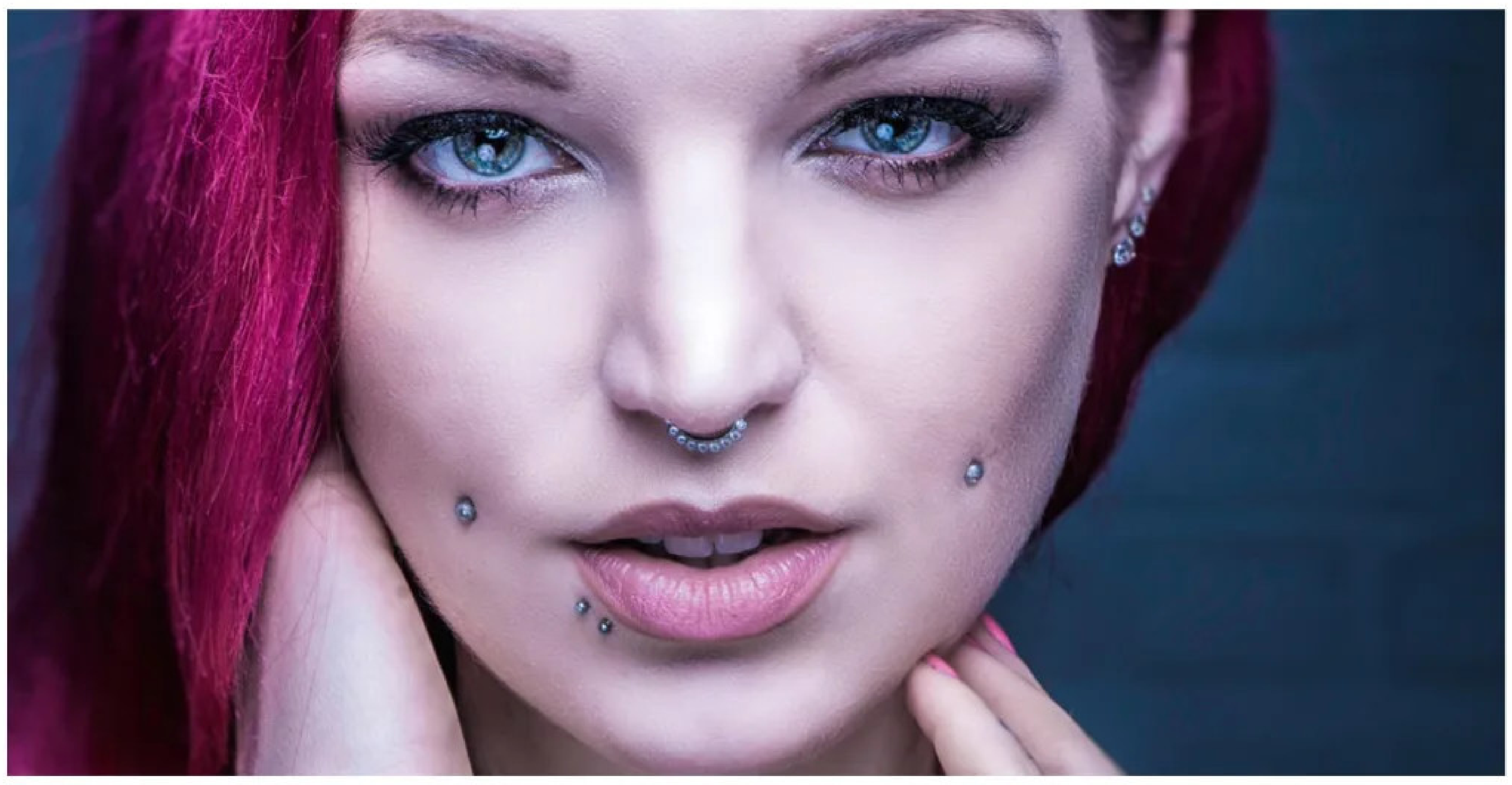
03 Attach a modifier

To control the quality and spread of the light, studio lights can be fitted with a variety of modifiers and accessories, such as the softbox and umbrella that you can see here. The modelling light – a constant bulb next to the flash bulb – will give you an idea of the effects of each modifier.



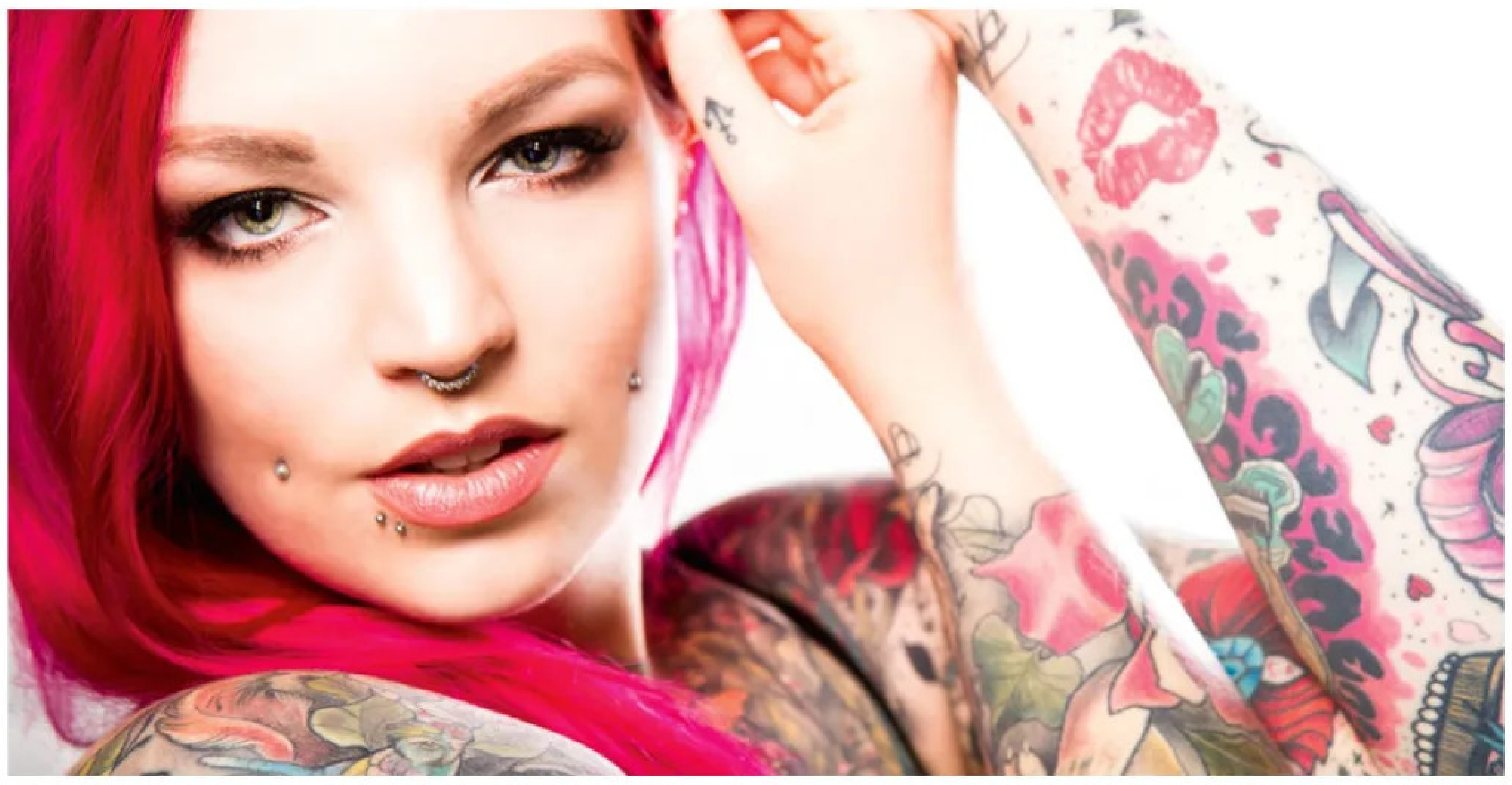
04 Experiment with exposure

In manual mode, set the ISO to 100, the aperture to f8 and the shutter speed to the fastest flash sync speed (usually 1/200 sec). Take a test shot. If it's too light, either lower the flash power, increase the f-number or move the light further away. If it's too dark, do the opposite.



05 Strike a balance

With two lights, it's all about the ratio between them. Turn on one light – we used a softbox from above – and expose for it. This is your Key. Now turn it off and turn on the other light – an umbrella from below, here. Aim for one or two stops of underexposure. This is your Fill.



06 Blow the highlights

We can get a fresh high-key look with just two lights. Here one softbox lights the face, while an umbrella is angled at the background. The umbrella is fired at a higher power than the softbox, so it blows out the backdrop. A little reflected light creates a nice highlight along the cheek.

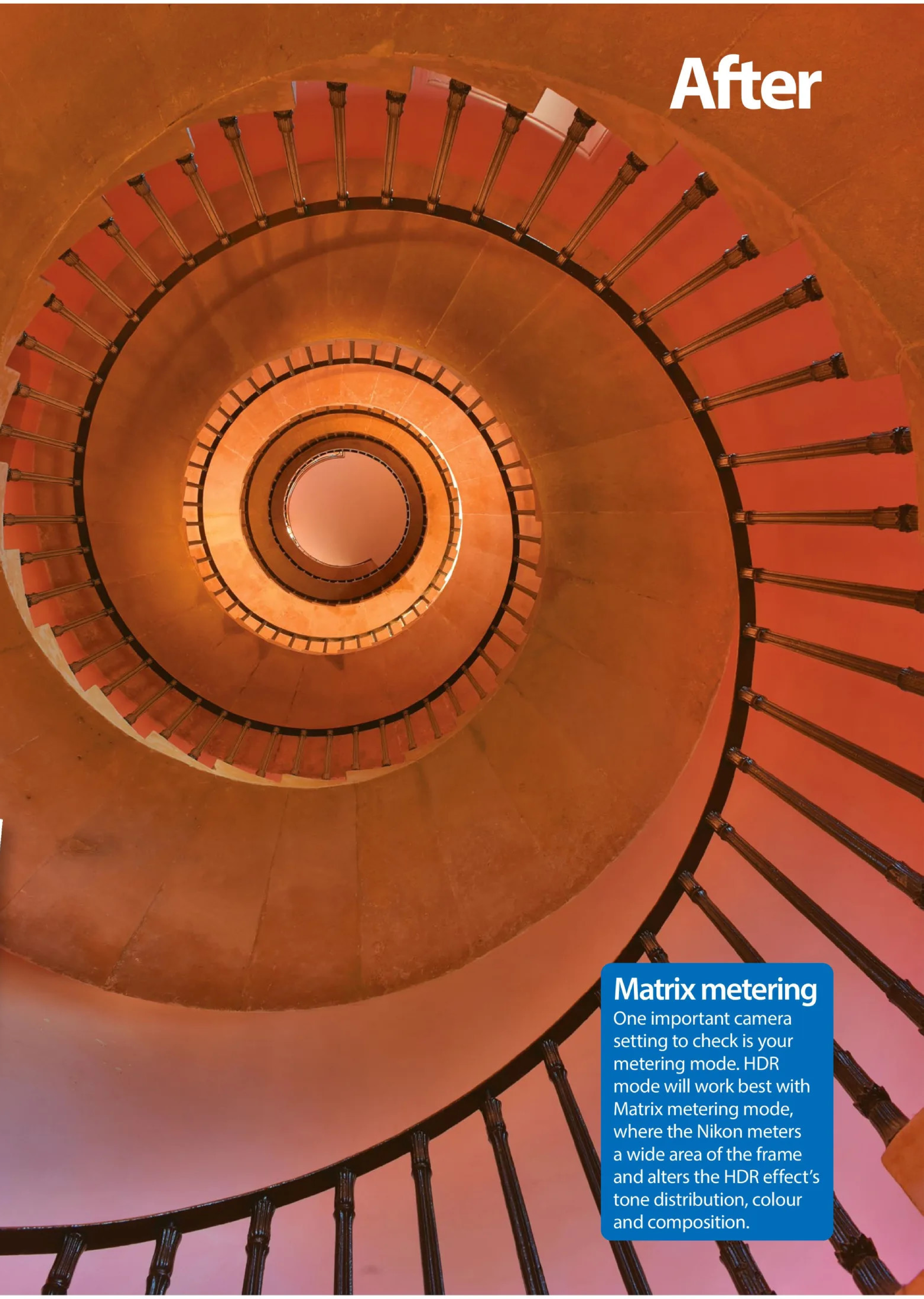
Use your built-in HDR mode

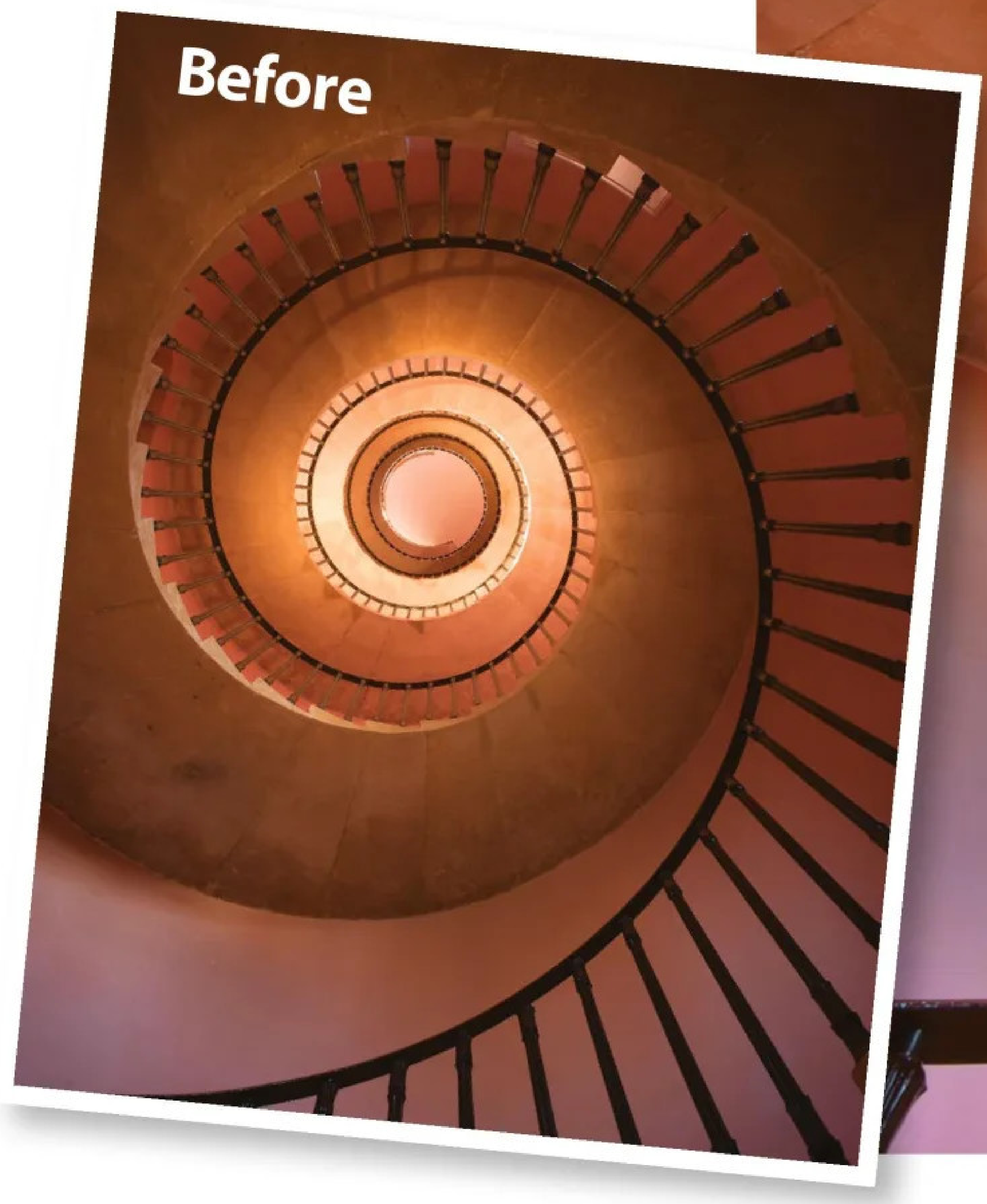
Boost the tonal range of high-contrast environments using your Nikon camera's built-in HDR (high dynamic range) mode

The human eye is truly incredible: it can see a massive range of tones from bright highlights to dark shadows. Nikon DSLR image sensors are good, but they can't quite compete with the human eye when it comes to resolving tonal range.

Whenever you try to shoot a high-contrast scene, it's nearly impossible to capture a single image that retains detail in the shadows and in areas lit by the sunshine. High dynamic range (HDR) images are one way of dealing with this issue.

The HDR mode built into most modern Nikon DSLRs can capture and create an HDR image without the need of computer software later. The Nikon takes two exposures – one darker, one brighter – then merges them in-camera into a single JPEG that has an overall better range of tones. For this project, we've shot on a bright day at Beckford's Tower in Bath, where we found that the elegant stairwell has a mixture of shadows and highlights that simply can't be captured in a single shot…





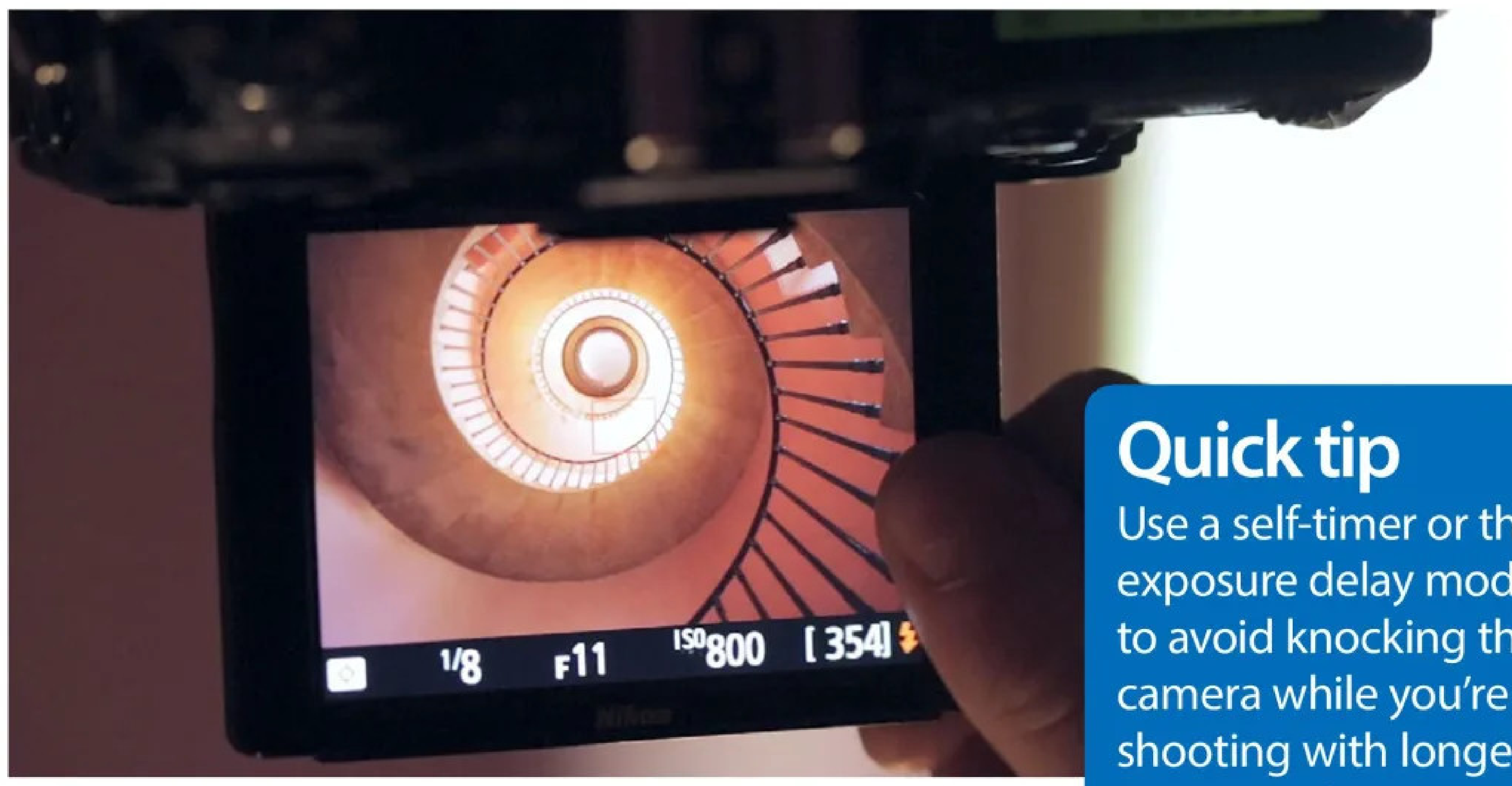
Matrix metering

One important camera setting to check is your metering mode. HDR mode will work best with Matrix metering mode, where the Nikon meters a wide area of the frame and alters the HDR effect's tone distribution, colour and composition.

Step by step Get set up

01 Get set up

We're using our Nikon D750 with a wide-angle 24mm f2.8 lens to capture as much of the stairwell as possible. To achieve sharp shots, we set the camera on a tripod at the bottom of the building beneath the stairwell, and aimed it up towards the top of the tower.


1/8
F11
ISO 800
[354]

02 Have a look

We then flipped out the D750's Live View screen to fine-tune our composition. If your Nikon doesn't have a flip-out screen, you'll have to crouch down to see the Live View screen, or look through the viewfinder. Once everything's nicely lined up, we can continue…

Quick tip

Use a self-timer or the exposure delay mode to avoid knocking the camera while you're shooting with longer exposure times.

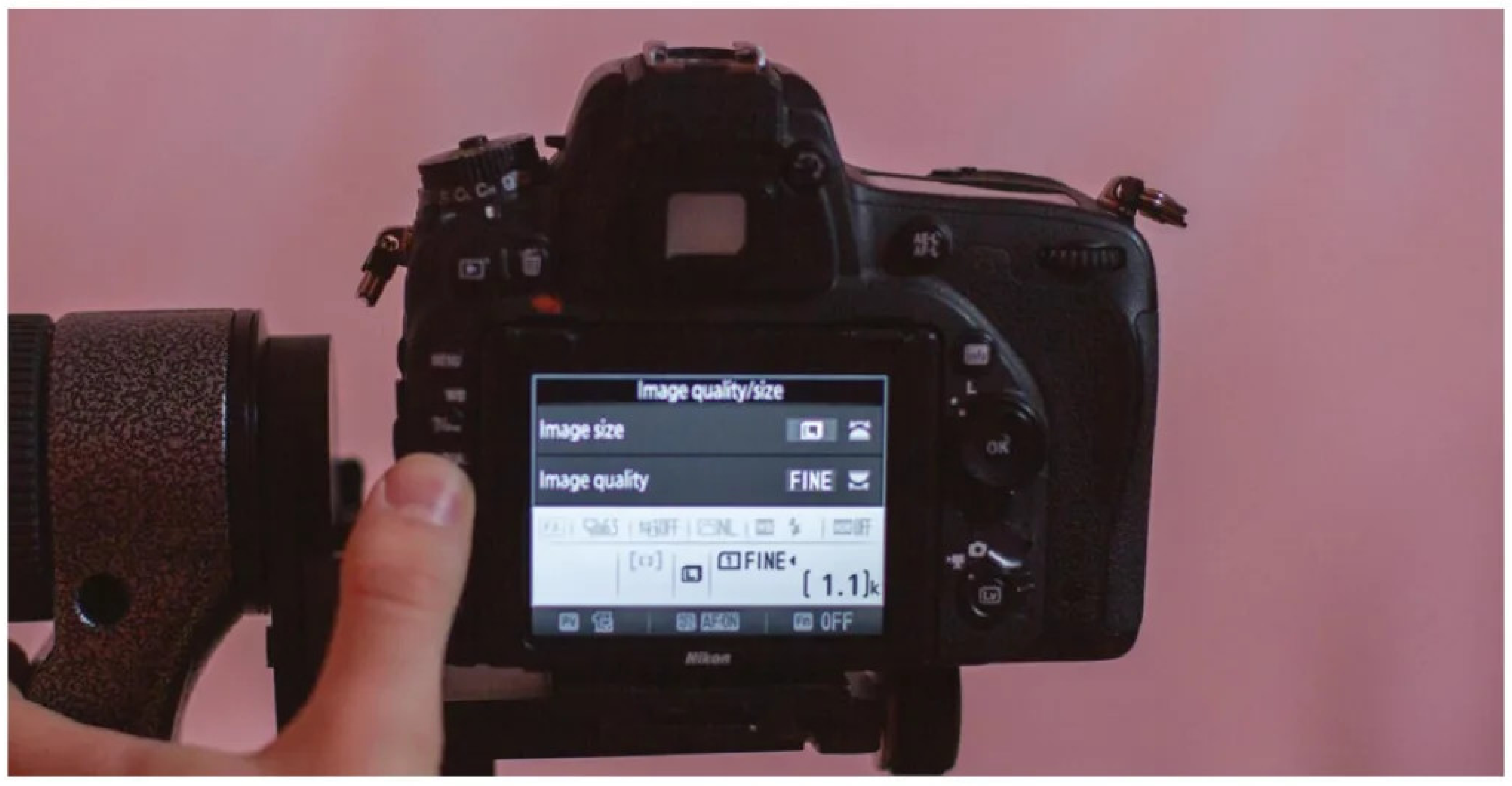
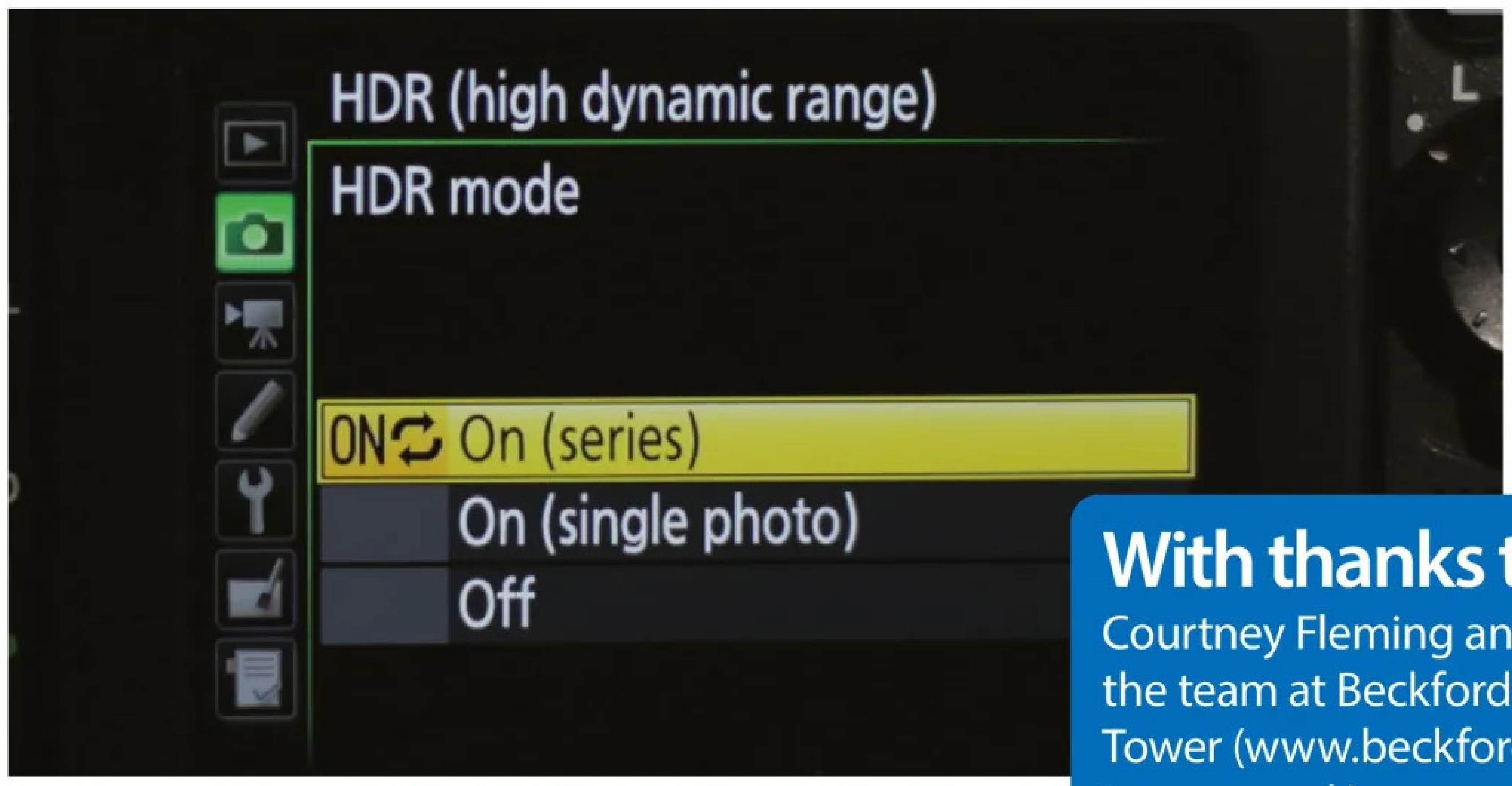


Image quality/size
Image size
Image quality
FINE
FINE
[1.1]k

03 Switch to JPEG

The HDR mode can only be used when your Nikon is set into JPEG quality, and cannot be used when shooting Raw (NEF). In your Photo Shooting Menu scroll down until you see the option 'HDR (high dynamic range)'. You have the options of HDR mode and HDR strength.

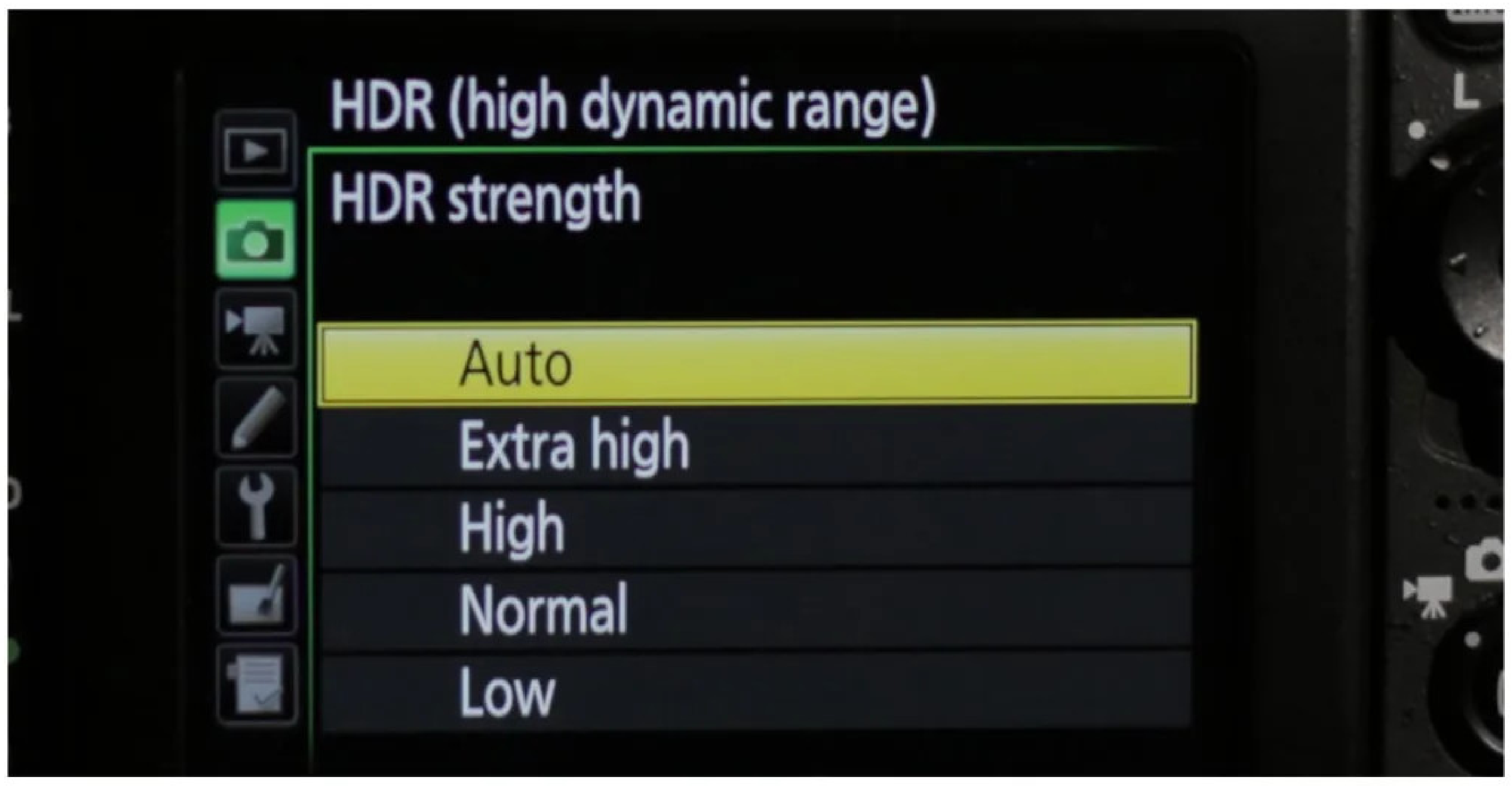

HDR (high dynamic range)
HDR mode
ON On (series)
On (single photo)
Off

04 HDR mode

HDR mode gives you three options. On (single photo) means your camera will continue shooting normally after one HDR shot. On (series) will continue shooting HDR images until you head back into the menu and switch it to the third option, which is simply Off.

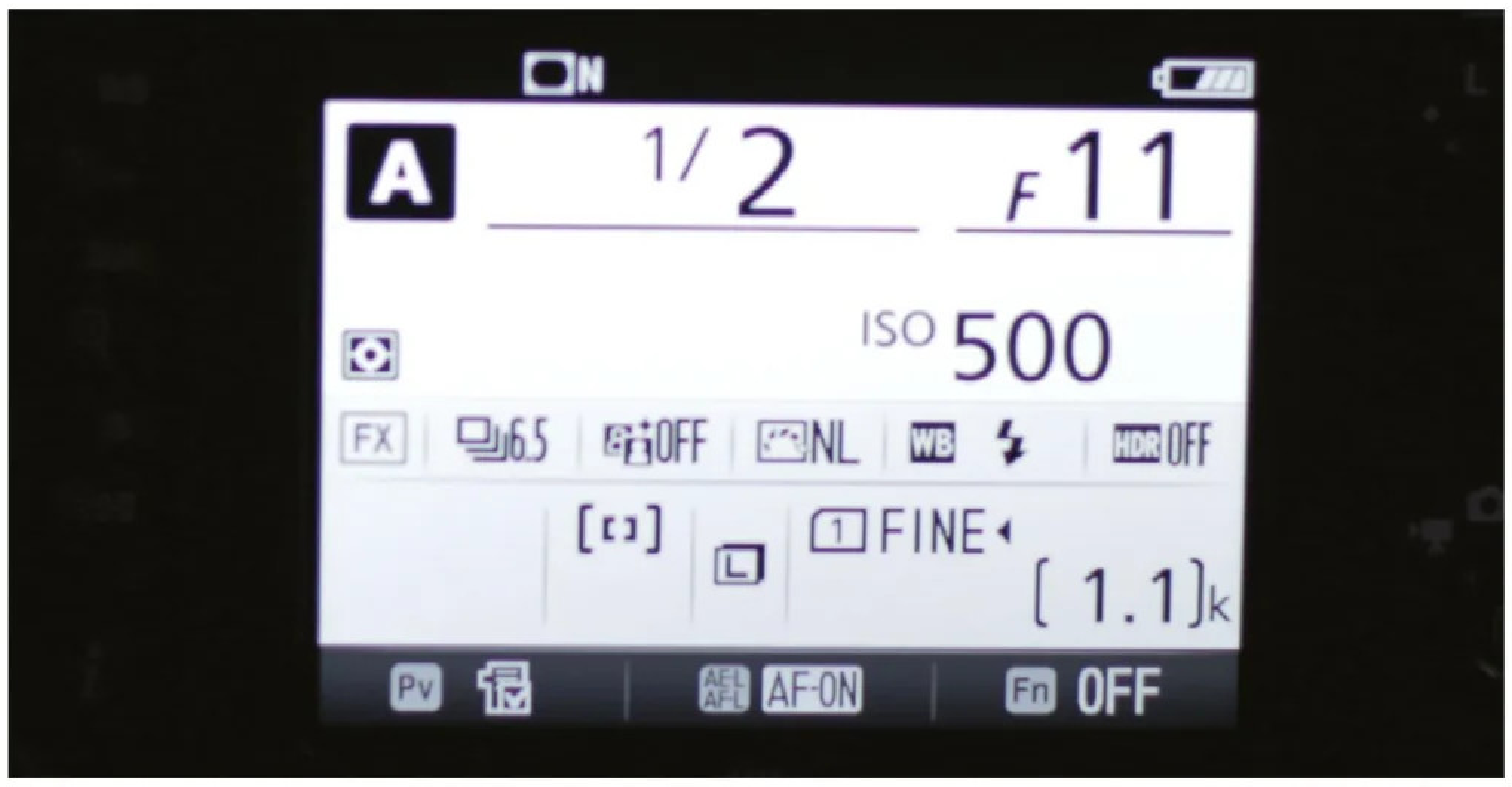
With thanks to

Courtney Fleming and the team at Beckford's Tower (www.beckfordstower.org.uk)


HDR (high dynamic range)
HDR strength
Auto
Extra high
High
Normal
Low

05 Finesse the shot

HDR strength will determine the intensity of HDR on your final image. In most cases we recommend sticking with Auto; you may want to try High or Extra high if your scene is extremely high-contrast, but be careful not to overdo it: Extra high is usually too strong.


A
1/2
F11
ISO 500
FX
6.5
OFF
NL
WB
OFF
FINE
[1.1]k
Pv
AF-ON
Fn OFF

06 Set the exposure

Use a narrow aperture of around f16 for good depth of field so your whole scene is sharp from the bottom of the staircase right to the top. You can use Aperture Priority or Manual mode; today we're using Manual mode with a shutter speed of 1/2 sec and ISO 500.

Master mono seascapes

Take a minimalist approach by learning how to create ethereal long-exposure seascapes

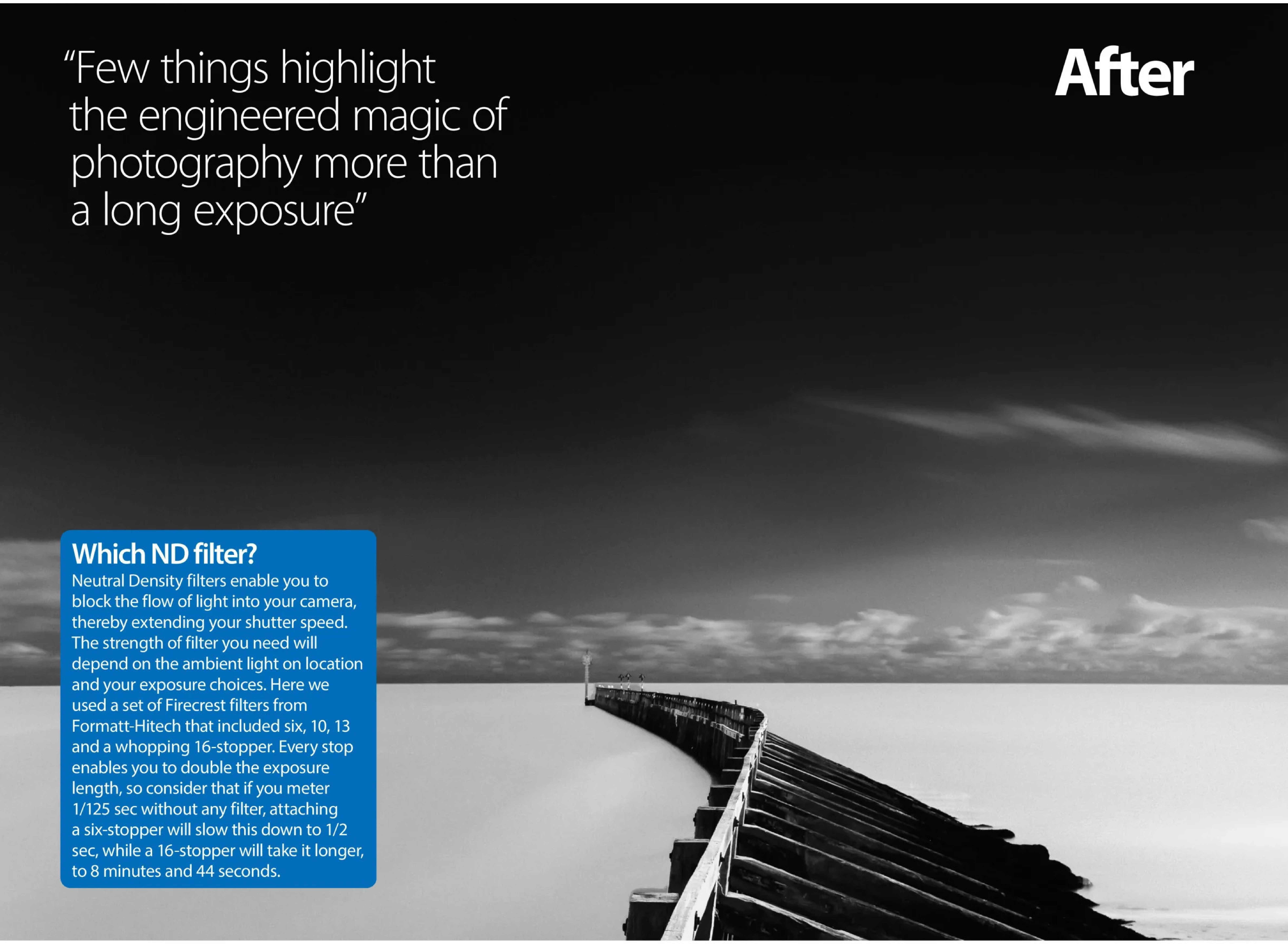
Photographers often obsess about detail, sharpness and resolution. But simplicity can be just as powerful. By paring down images to the bare elements we can create beautiful, minimalist artwork. In this project we'll show you how, from setting up and shooting long exposures, to stripping out the colour for a gorgeous monochrome finish.

There are few things that highlight the engineered magic of photography more than a long exposure. When we stretch out our shutter speeds to several seconds, or even minutes, any motion in the scene is recorded as a beautiful silky blur. The ability it gives us to present everyday scenes in a completely different way can be hugely effective. It gives them a surreal, calm quality that feels minimalist.

This is because, for certain scenes, the smoothing effect of motion blur is a great simplifier. Seas are a perfect example of this. Photographed normally, choppy seas are full of detail – there are all the dips and ridges on the surface, foaming waves, spray and even floating debris. But when a longer shutter speed is used, all of this is eradicated, transforming those distracting, busy details into a smooth, glossy surface.

Extending your shutter speed to entire minutes during the day requires a strong, near-opaque Neutral Density (ND) filter to slow the flow of light into your camera, plus a tripod and a few simple camera skills. This all takes meticulous attention to detail and you might only come away with one or two good shots, but that's all you need…

> "Few things highlight the engineered magic of photography more than a long exposure"



Which ND filter?

Neutral Density filters enable you to block the flow of light into your camera, thereby extending your shutter speed. The strength of filter you need will depend on the ambient light on location and your exposure choices. Here we used a set of Firecrest filters from Formatt-Hitech that included six, 10, 13 and a whopping 16-stopper. Every stop enables you to double the exposure length, so consider that if you meter 1/125 sec without any filter, attaching a six-stopper will slow this down to 1/2 sec, while a 16-stopper will take it longer, to 8 minutes and 44 seconds.

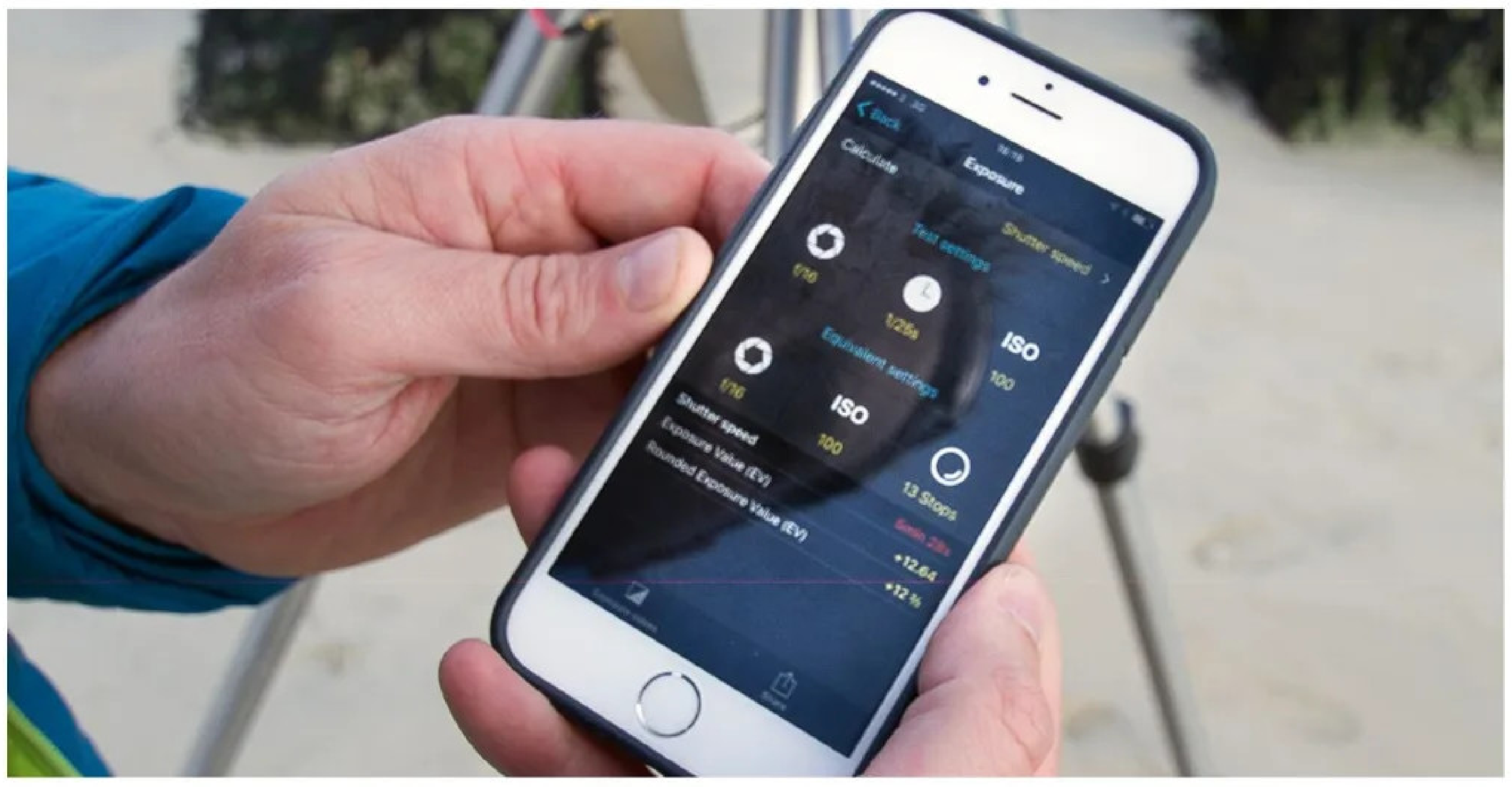
Step by step Capture a sea change

01 Think slow and steady

Set up on a tripod and focus before switching to manual focus to lock it. Before attaching the ND filter, take a test shot. Use Aperture Priority and ISO100 with an aperture of f11 or more. If it looks good, take note of the shutter speed, which was 1/60 sec at f11 in our test shot.

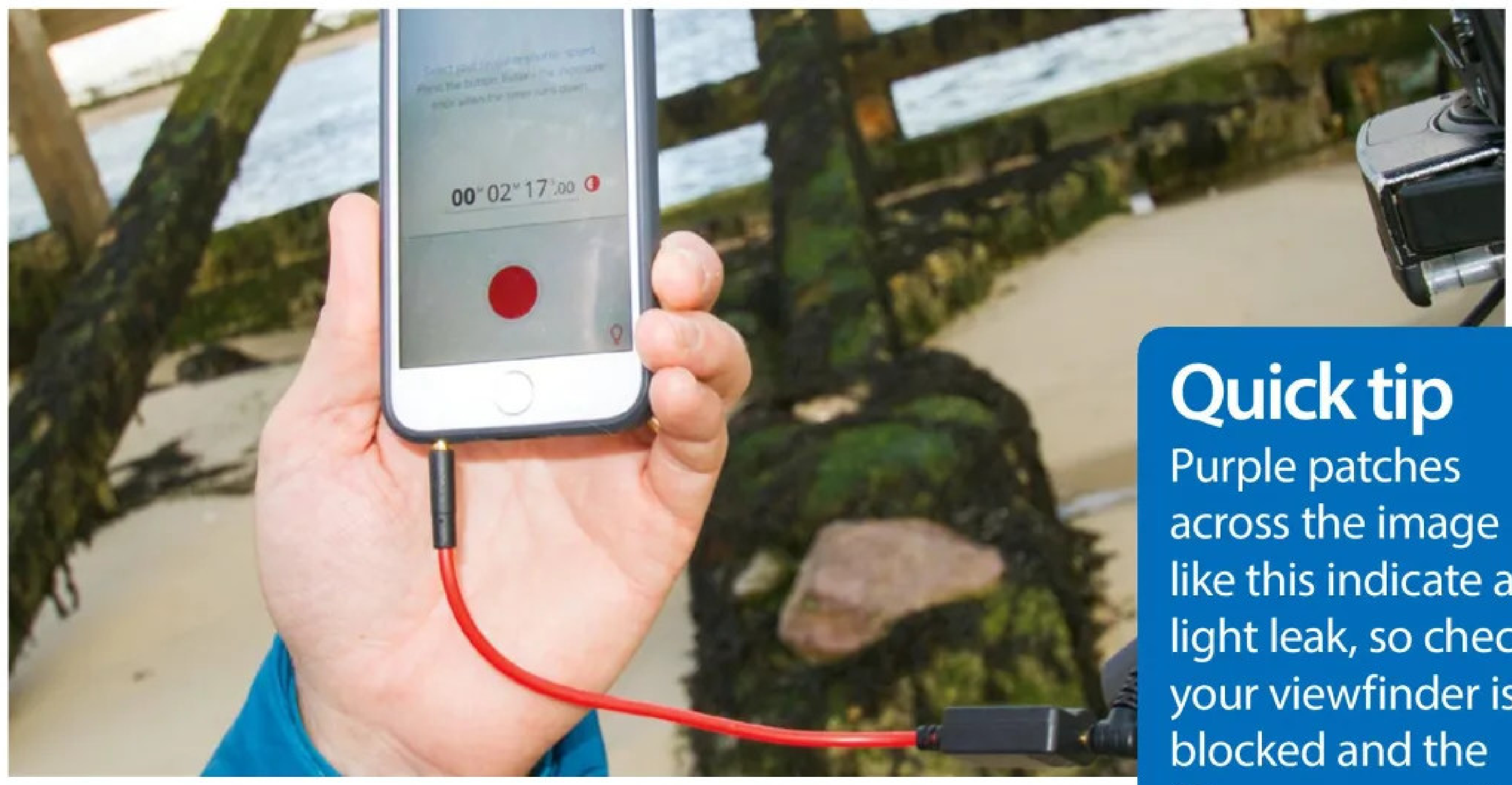
02 Attach the filter

You won't be able to see once the filter is on, so make any final composition tweaks then attach your ND filter to the lens. We used Formatt-Hitech's Firecrest filter holder with a 13-stop ND. Next block up the viewfinder with a cover or a piece of tape and turn off VR or stabilisation.



03 Do the maths

The shutter speed in our test shot here was 1/60 sec, so with the 13-stop ND filter attached we need to double this value 13 times, equalling 2 minutes 17 seconds. There are apps such as PhotoPills that have exposure calculators to work out the exposure time for you.

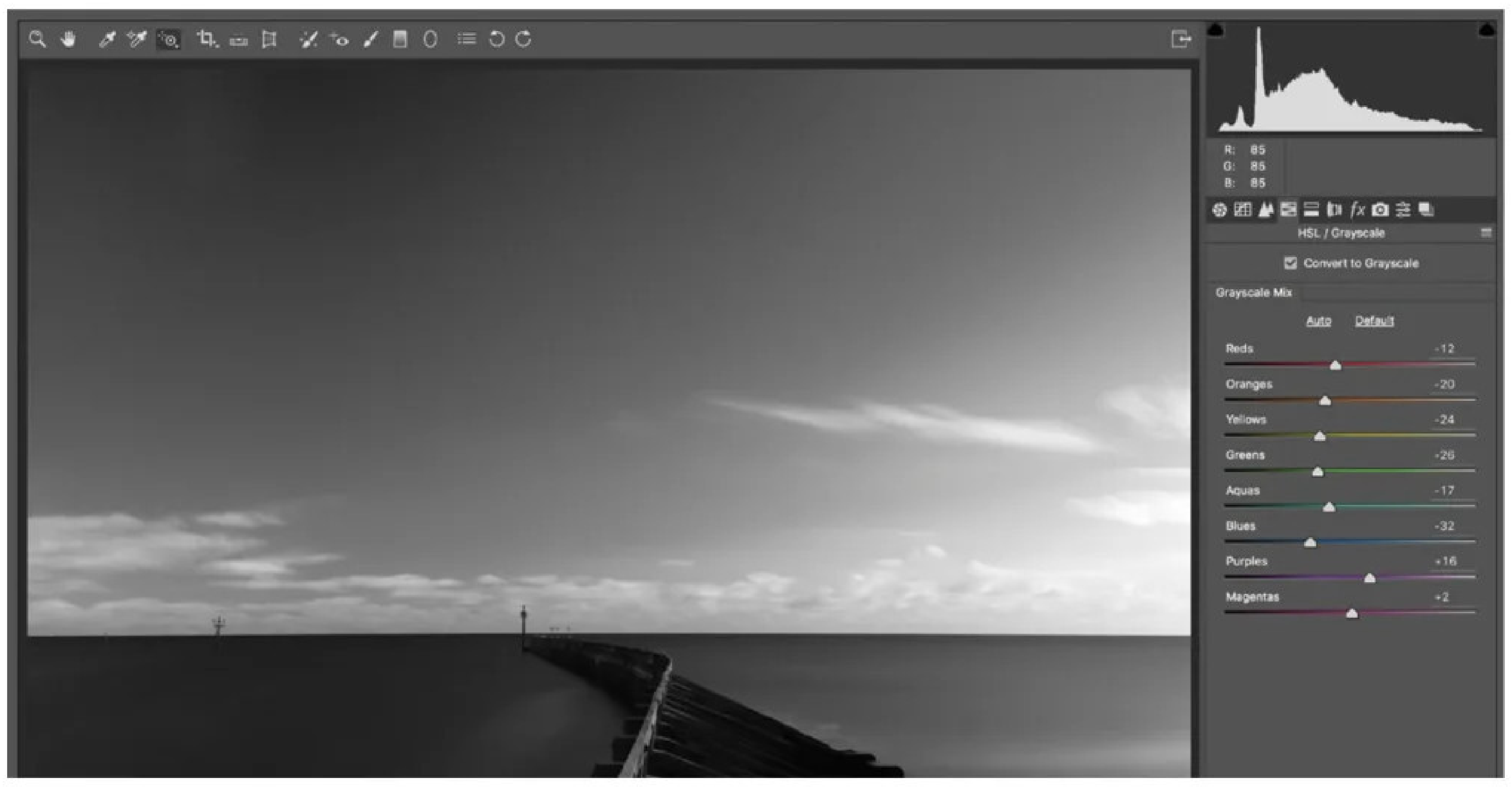


Quick tip

Purple patches across the image like this indicate a light leak, so check your viewfinder is blocked and the filter seams are tight

04 Time the exposure

Switch to Manual and lower the shutter speed to Bulb. Attach a remote release and lock open the shutter for the required time – or use Triggertrap Mobile, which uses a dongle to connect your camera and phone, and an app that enables you to specify exposure time



HSL / Grayscale

☑ Convert to Grayscale

Grayscale Mix

Reds -12

Oranges -20

Yellows -24

Greens -26

Aquas -17

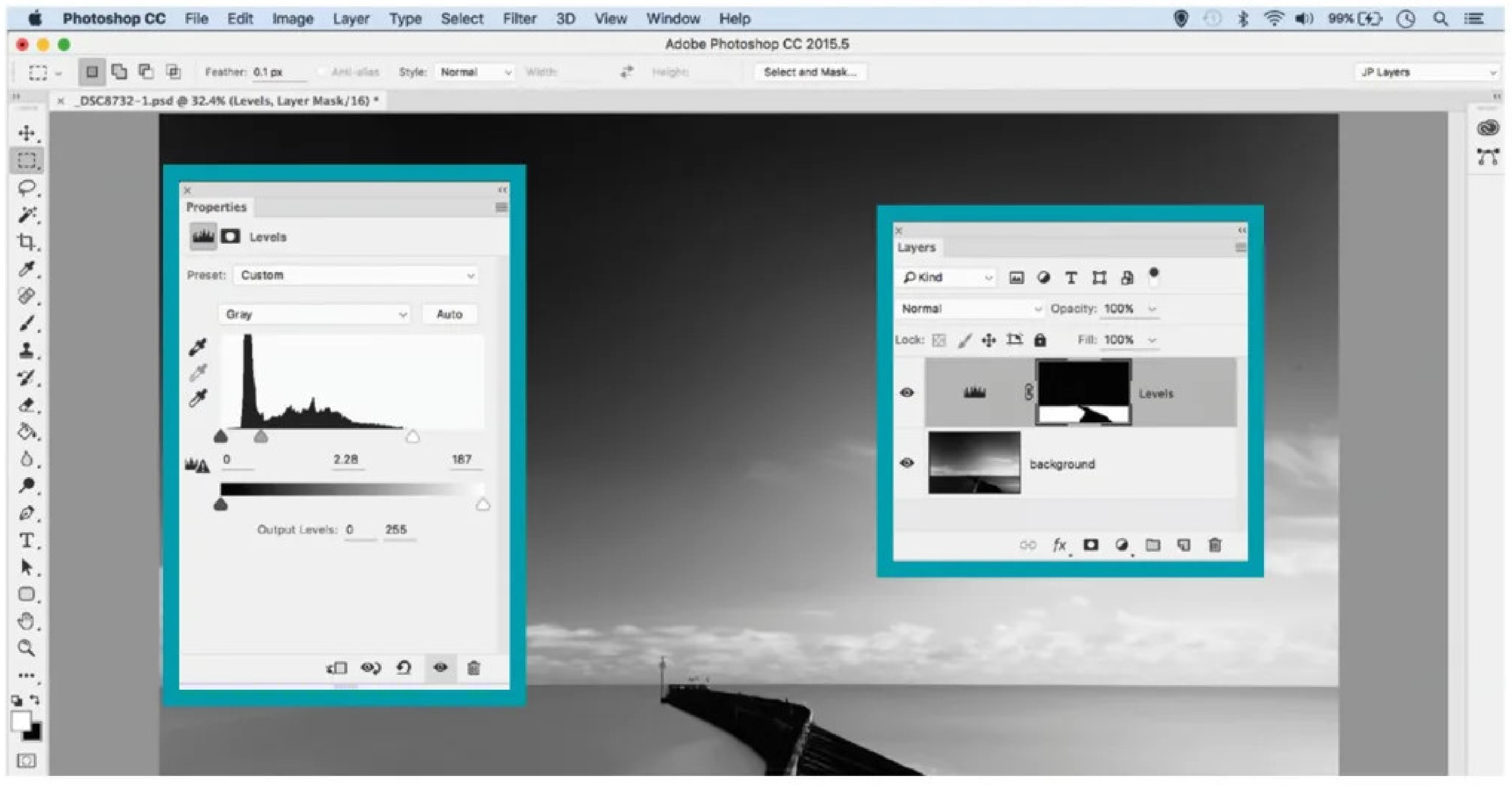
Blues -32

Purples +16

Magentas +2

05 Convert to mono

Long exposures often have more noise, so use a noise reduction tool such as Adobe Camera Raw's Detail panel. Then convert the image to black and white and use Camera Raw's HSL/Grayscale panel to control the brightness of colour ranges – we darkened the blues.



Adobe Photoshop CC 2015.5

Properties: Levels

Preset: Custom

Gray

Input levels: 0 2.28 187

Output Levels: 0 255

Layers: Normal, Opacity: 100%, Fill: 100%

Levels

background

06 Lighten and darken

Often brightening water and darkening skies changes the mood of your image. In Photoshop, Shift-click over the sea with the Magic Wand to select it, then add a Levels Adjustment layer and use the sliders to lighten it. Repeat this method to adjust other areas of the image.

Shoot macro

Discover how to make a robust, mobile, macro lighting studio that fits into your hands

We're going to show you how to go guerilla-style and make your own macro lighting set-up that will work anywhere, at any time, and save space in your camera bag, as well as being relatively cheap. There's no need for clunky ring flashes, or dual flash heads that sit on the end of your lens. You need just one flashgun, a Nikon DSLR, a lens, a flash bracket, a wired flash trigger and a light diffuser to make a robust, mobile, macro studio. Diffusing the light is the extra step that will enable you to take a studio-like portrait of your macro subject.

You can mount everything together using the flash bracket and can lock in the settings you need to get perfect results every time. Here's how it's done…

Spray and pray

Arthropods move more slowly in cold conditions, so early morning is the best time to photograph them. It's likely that you'll get dew on the plants and arthropods because of the colder temperatures overnight, but if you don't want to get up early, spray them with water to create the same effect.

Step by step Macro on a budget

01 Reverse gear

A macro lens or even a kit lens is fine for this shoot, but we opted to reverse a wide-angle lens to keep our kit as light and as cheap as possible. We used a Nikon 24mm f2.8 lens. Whatever you use, switch the lens to manual focus and choose the minimum focusing distance.

02 Down to the wire

Cables are the most reliable way to trigger an off-camera flash, and they're ideal for this project. (We used the Yongnuo SC-28A.) Put one end on your Nikon's hotshoe and lock the wire in place, then seat the flashgun on the hotshoe at the other end of the cable.

03 A place for everything...

Use the bracket to position the flash above the lens, but without it poking over the front element. You want the light to be as close to the subject as possible – that way, you'll need less power, resulting in quicker recycle times, and the light will be softer, too.

04 Soft options

You need to soften the light, and there are many options for this. You could just use a sheet of paper, or make a softbox from a box with tissue paper over the flash hole. We chose a blow-up diffuser designed for flashguns because it's waterproof and can be inflated quickly.

05 Settings

Use manual mode. Set your aperture to f8, and a shutter speed to match the sync speed of the flash (for us, 1/200 sec) and as high an ISO as you can. (We used ISO200 as ISO100 was too dark.) We set 1/16 flash power as it exposed our subject well without clipping the highlights.

Quick tip

We put the lens on backwards to give us close-focusing capabilities. Simply hold the lens backwards against the camera body, or use a reversing ring to hold the lens in place.

06 Keep going

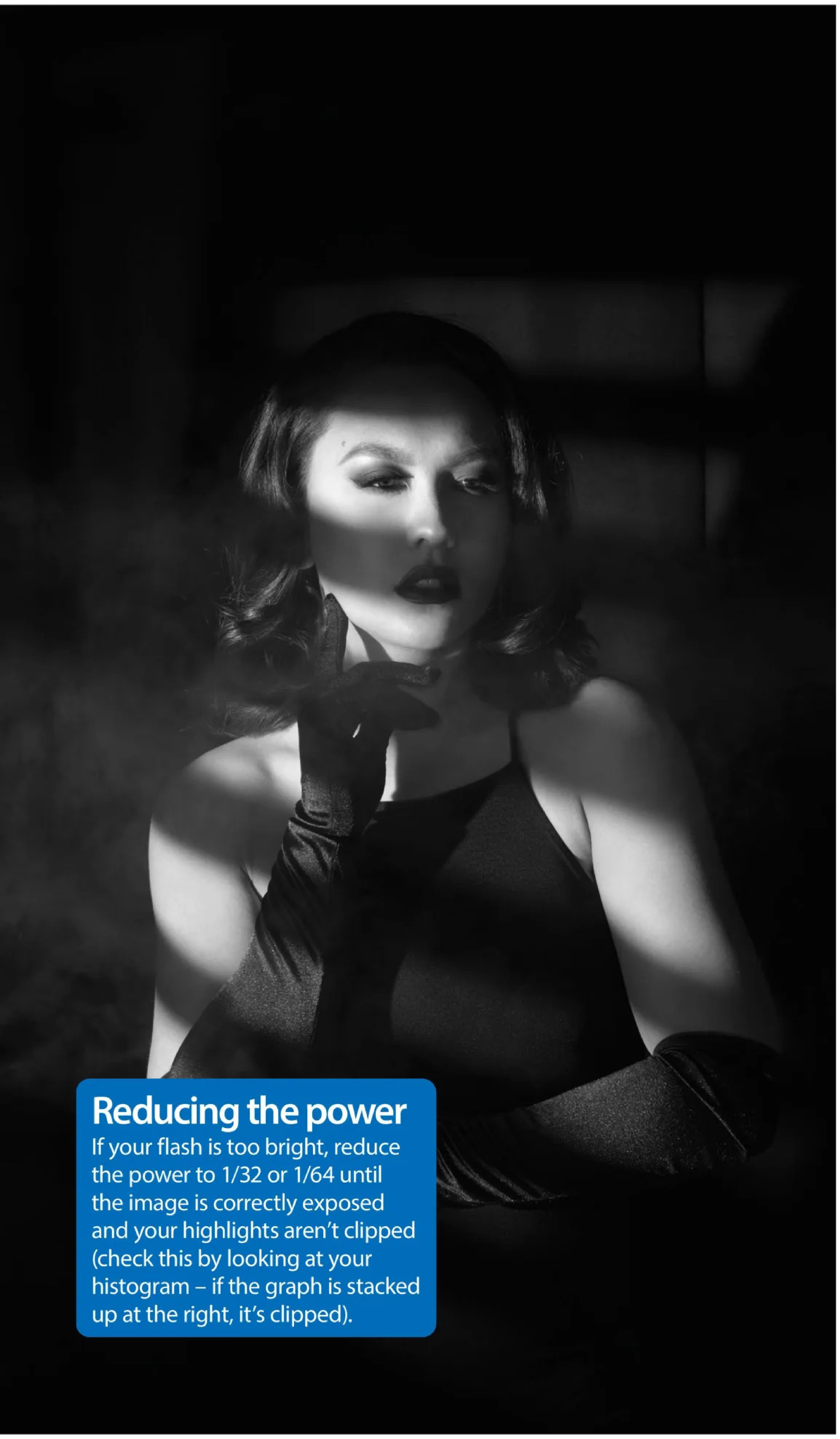
The depth of field is so narrow with macro photography that you'll need to rock back and forth from your subject while shooting in continuous drive. This way, a different portion of the subject will be in focus in each shot, and you can be selective when choosing the best photo.

Use a GOBO

Let's get hands-on with creative lighting and discover how to make your own GOBO

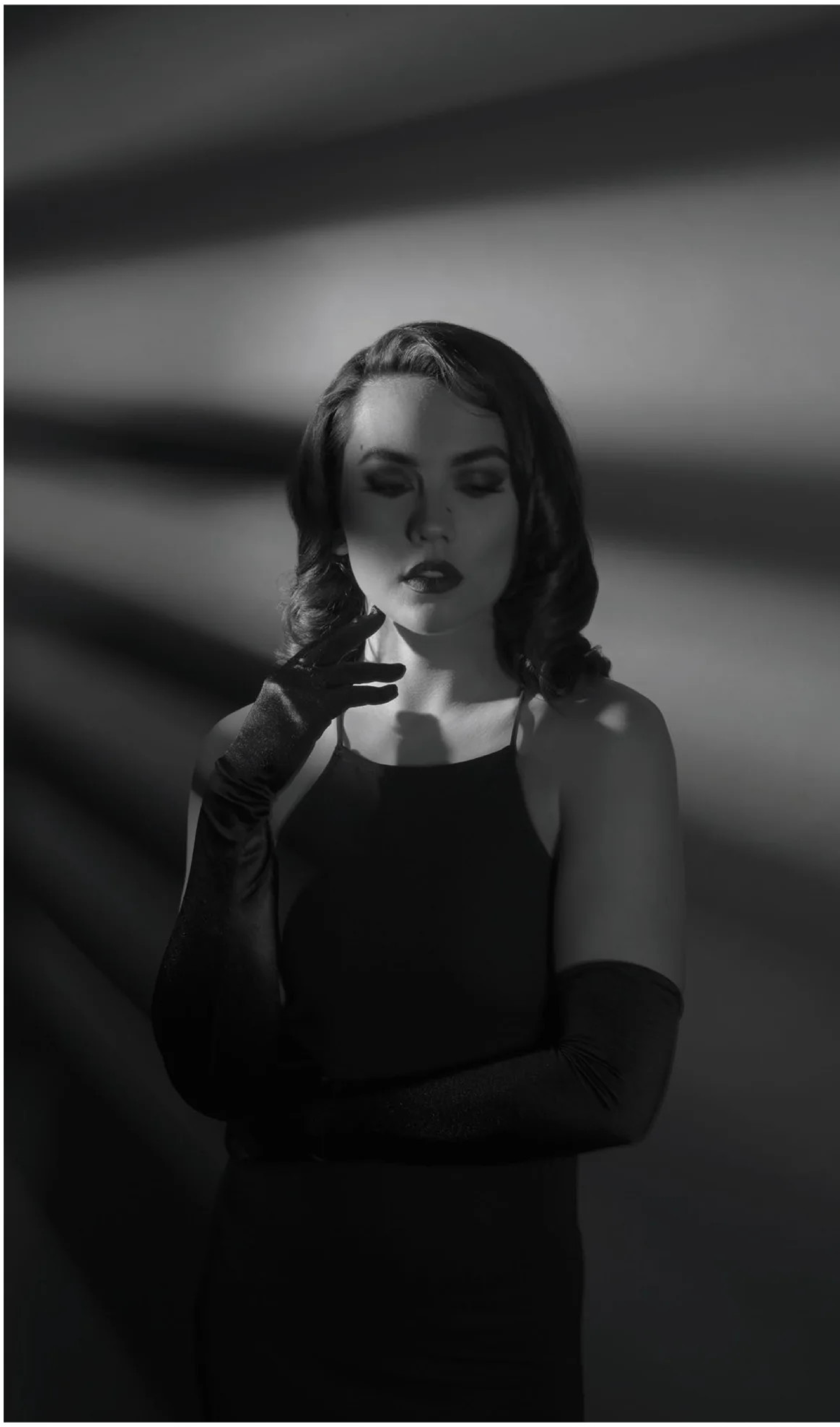
Now it's time to take things a step further and shoot with a modified light. To do this, we're going to show you how to add impact to a portrait image using a home-made GOBO. GOBO stands for 'go-between object', and it's simply a light modifier that goes between your light source and your subject. It can be a stencil cut to fit into your lighting, or it can be a freestanding object you've improvised for the job.

A GOBO can block the light, diffuse it, or colour it. In this case we're going to cut long rectangles in a sheet of card and place it in front of our flashgun (but not directly on the flashgun) to give the illusion that the light is passing through a blind. We're after a film noir feel here, but you can use a GOBO to create all sorts of lighting effects, and the principles are the same no matter what shape your GOBO is. What's the best way to use a GOBO, and how should you set one up?

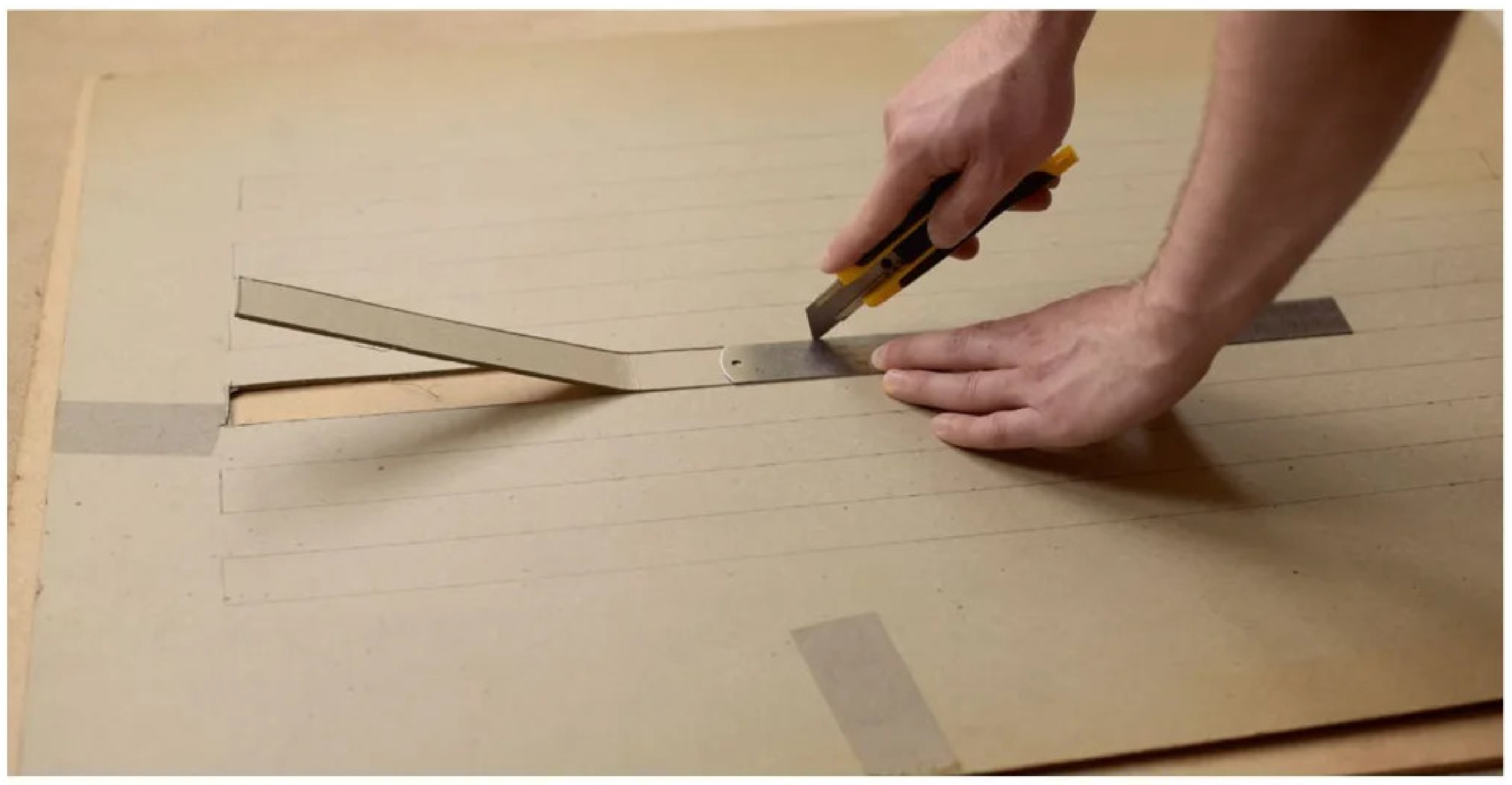


Reducing the power

If your flash is too bright, reduce the power to 1/32 or 1/64 until the image is correctly exposed and your highlights aren't clipped (check this by looking at your histogram – if the graph is stacked up at the right, it's clipped).



Step by step Create your own GOBO



01 Make the GOBO

To make the GOBO you'll need a large sheet of card. Measure out and mark long rectangles about 2.5cm high by 60cm long, and space them about 2.5cm apart. Then take a scalpel or some scissors and cut the rectangles out. Use a steel rule to keep the cuts straight.

CBS
4 Channel

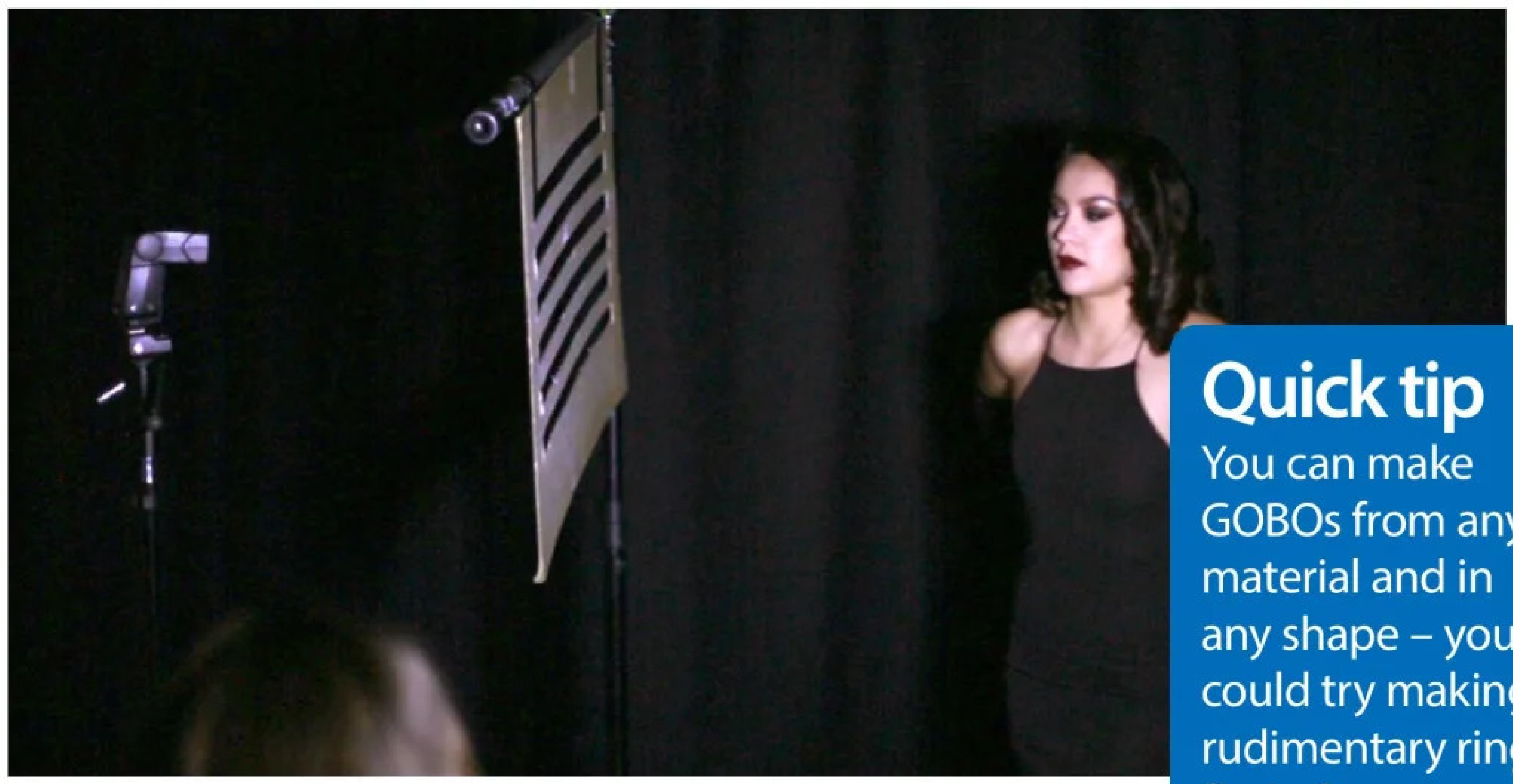
02 Set up the light

Attach your wireless receiver to the flashgun and mount it on a lightstand, then place the flash camera-left, about two metres away from your model. Turn on the flashgun and receiver, and set the flash to 1/16 power. Attach the wireless transmitter to your Nikon's hotshoe.

1/25
f8
ISO 250
RAW
[761]
OFF
Nikon

03 Set up the camera

We set f8 in aperture-priority mode, then adjusted our ISO to 250, so that we had a shutter speed below 1/200 sec (the sync speed of the flash). We then slowed it further, to 1/25 sec, using exposure compensation, to let in more of the ambient light.

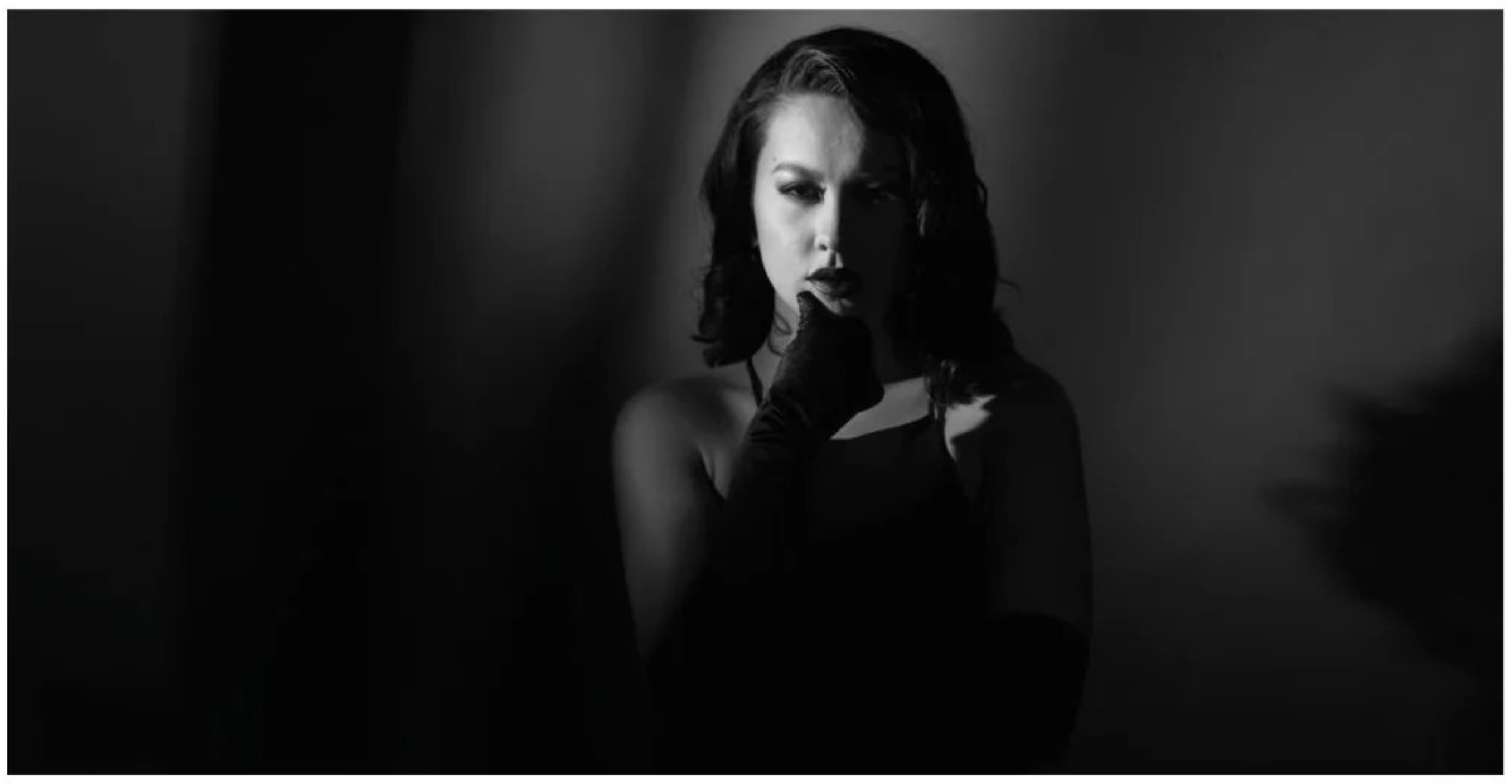


04 Position the GOBO

Take your GOBO and strap it to a light stand, or anything that stands upright, then set it up in front of the flashgun, about half a metre away, so it sits between the flash and the model. You can experiment with the position once you start shooting.

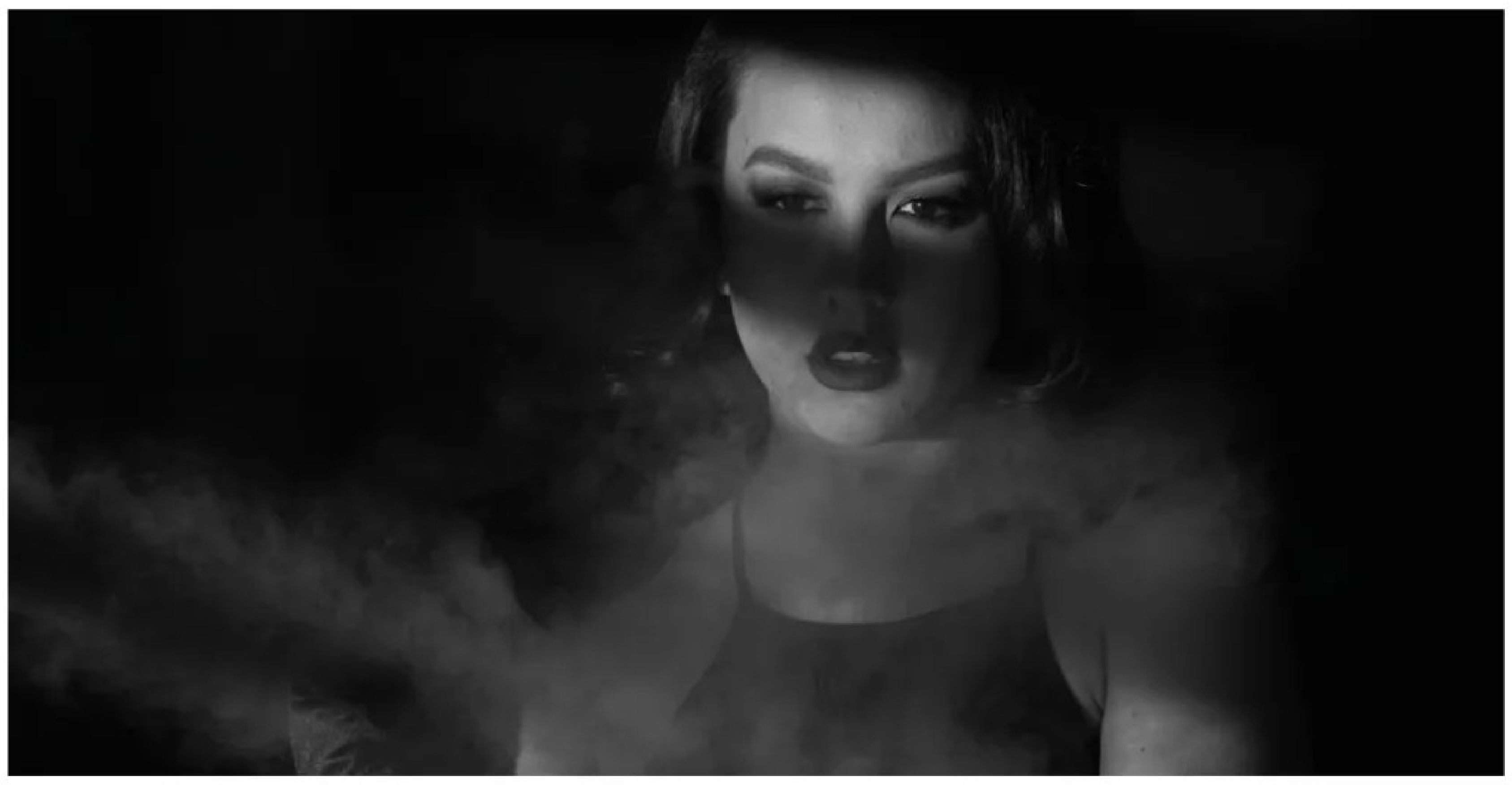
Quick tip

You can make GOBOs from any material and in any shape – you could try making a rudimentary ring flash, for example



05 Direct the model

Don't keep your model in one place – get them to move around. Ask them to look at the light and shift position, so you can see how the light interacts with the contours of their face. The further your model is from the GOBO, the wider and more diffuse any shadows will be.



06 Add some atmosphere

To add some more drama you could use some artificial fog to better define the shafts of light as they pass through the GOBO. Or you can also turn the final result black and white in Photoshop for that classic filmic effect.

Clean your DSLR

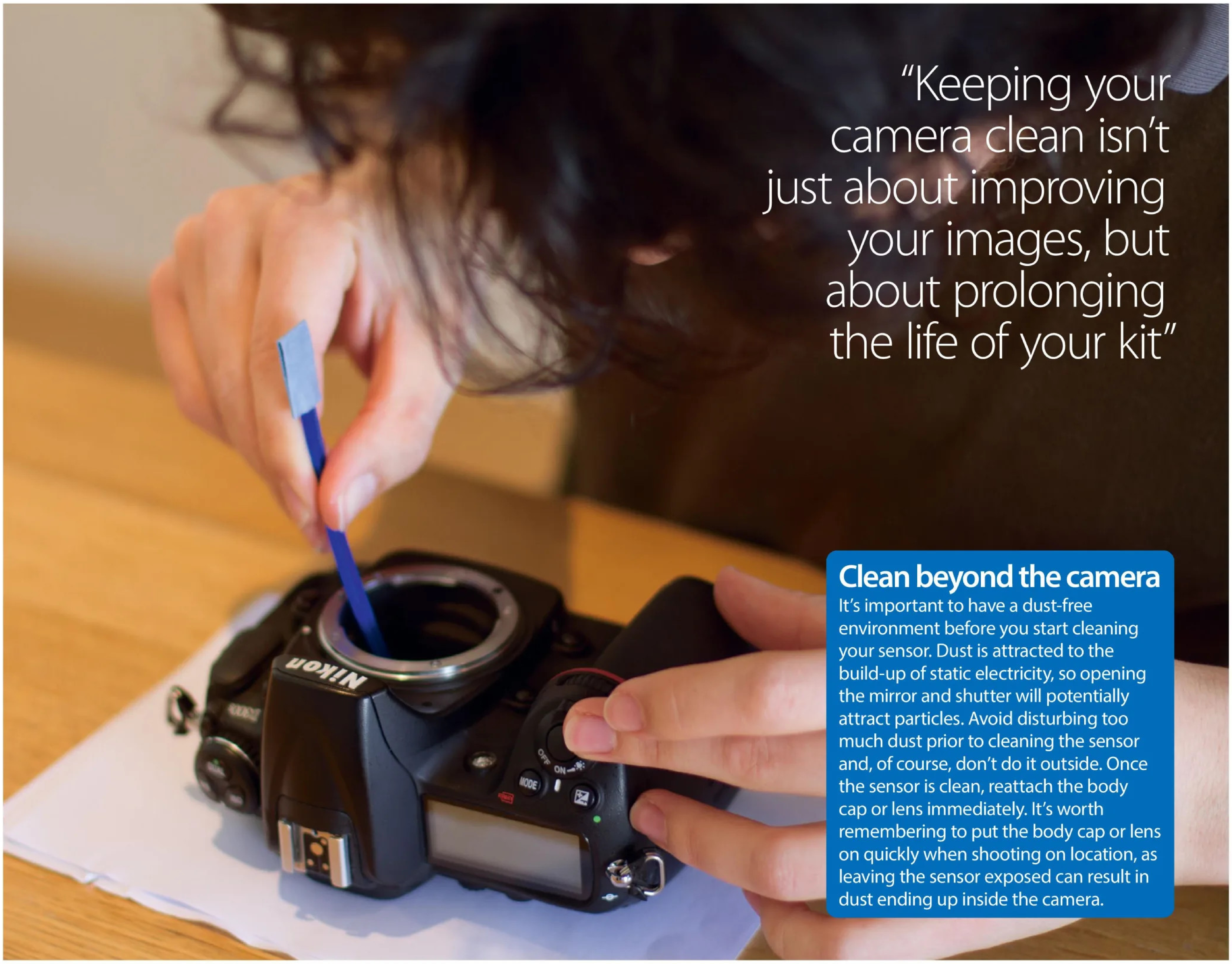
Before you head off on your next photo adventure, learn how to clean your camera and lenses, preventing issues when you're shooting

If you're planning a long trip abroad, chances are you're looking to ensure your kit is completely dust-free and ready to go the minute you step off the plane. There are a few simple jobs to perform before you pack. The external areas of your camera are simple enough to manage, as they're tough and you can be rougher and less careful with them than you need to be with the inside of your camera. As long as you're careful enough with sticky substances and food on fingers, it's also extremely unlikely that the body of the camera and lens will pick up too much that will affect your usage. That said, it's still worth wiping the camera over and checking the contacts for any obvious problems. Any particles removed from the camera body will, clearly, be unable to get into more important areas.

Cleaning the sensor of the camera fills many photographers with dread; sticking something inside the camera, hoping nothing will be damaged in the process, and then adding liquid into the equation will make any cautious photographer recoil and want to pay a professional. It's worth bearing in mind, though, that you aren't cleaning the sensor itself, but the glass filter which sits on top. There's just as much potential for damage if the cleaning is performed incorrectly, but you needn't be so concerned about the affect your cleaning might have.

For this, you'll need a sensor cleaning kit from Visible Dust or similar, containing sensor cleaning fluid and swabs. These are double-ended cleaning tools, consisting of a plastic stick with a papery material on either end. Cleaning the sensor involves wiping the swab across the sensor (see right). Just be sure to get the right size swabs for your sensor, as they come in different sizes.

Keeping your camera clean isn't just about improving your images, but about prolonging the life of your kit.



"Keeping your camera clean isn't just about improving your images, but about prolonging the life of your kit"

Clean beyond the camera

It's important to have a dust-free environment before you start cleaning your sensor. Dust is attracted to the build-up of static electricity, so opening the mirror and shutter will potentially attract particles. Avoid disturbing too much dust prior to cleaning the sensor and, of course, don't do it outside. Once the sensor is clean, reattach the body cap or lens immediately. It's worth remembering to put the body cap or lens on quickly when shooting on location, as leaving the sensor exposed can result in dust ending up inside the camera.

Step by step Bust that dust

01 Body work

Use an anti-static cloth and a blower brush to clean the outside of the camera. First use the blower brush all over the camera to remove any loose dust, paying attention to the inside of the grip and around the viewfinder. Follow up with an anti-static cloth on the same areas.

02 Gleaming glass

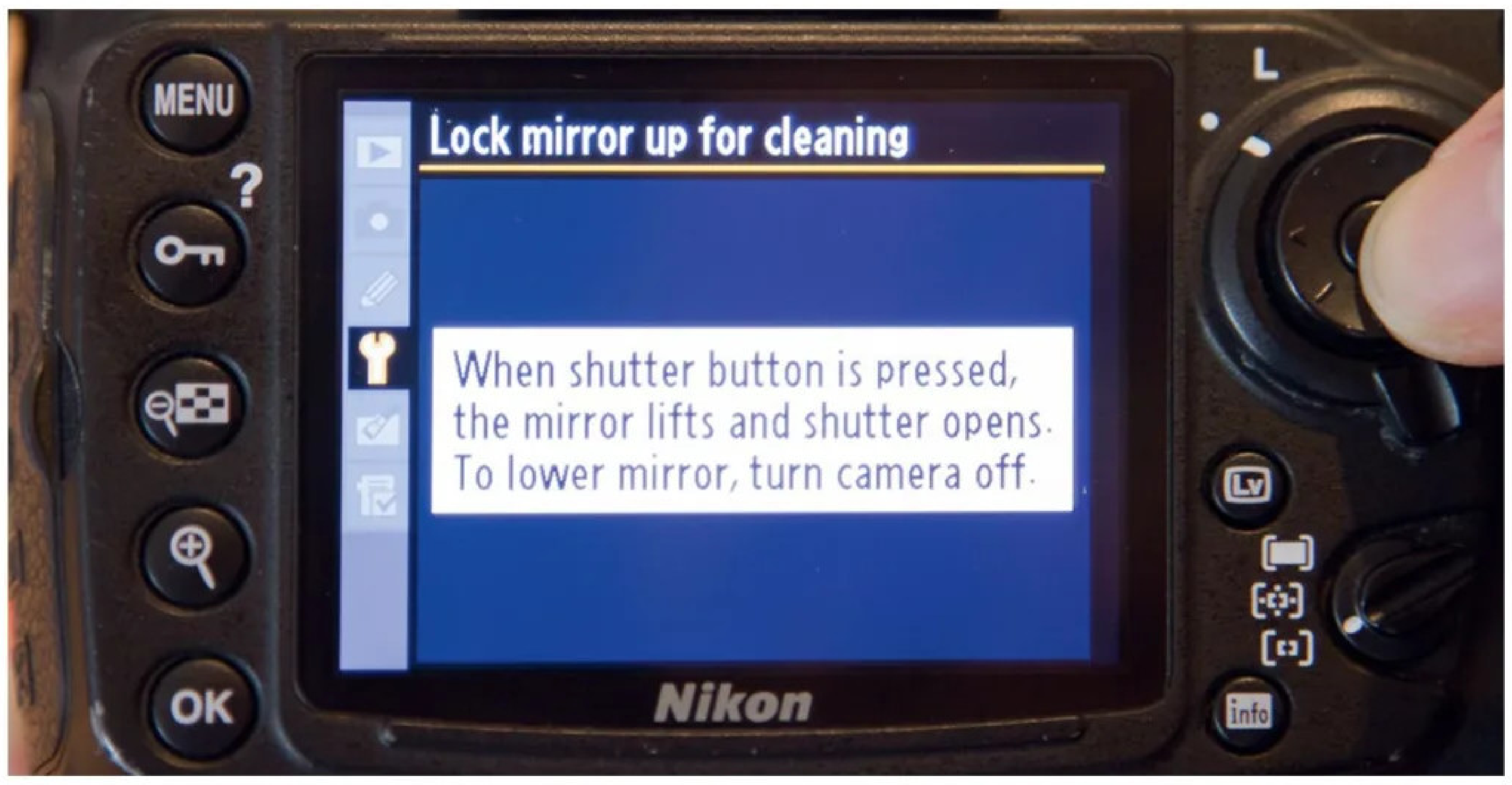
Wipe the outside of each lens with an anti-static cloth, then use the blower brush on the front element and the rear element. If there's still dust on either, wipe them with a lens tissue with a drop or two of lens fluid applied (make sure it's photo lens cleaner, not glasses cleaner).

Quick tip

Buy a UV filter for each lens you own, as it'll provide a cheap and easy method of protecting the front element from dust and other dirt

03 Spot the spots

Over-cleaning can cause issues, so check that your sensor needs cleaning. Put a sheet of white paper on a flat surface. Put your DSLR into aperture-priority mode at f22, and let the shutter speed adjust to get an even exposure, using the flash in needed. Look for spots in the resulting image.



Lock mirror up for cleaning

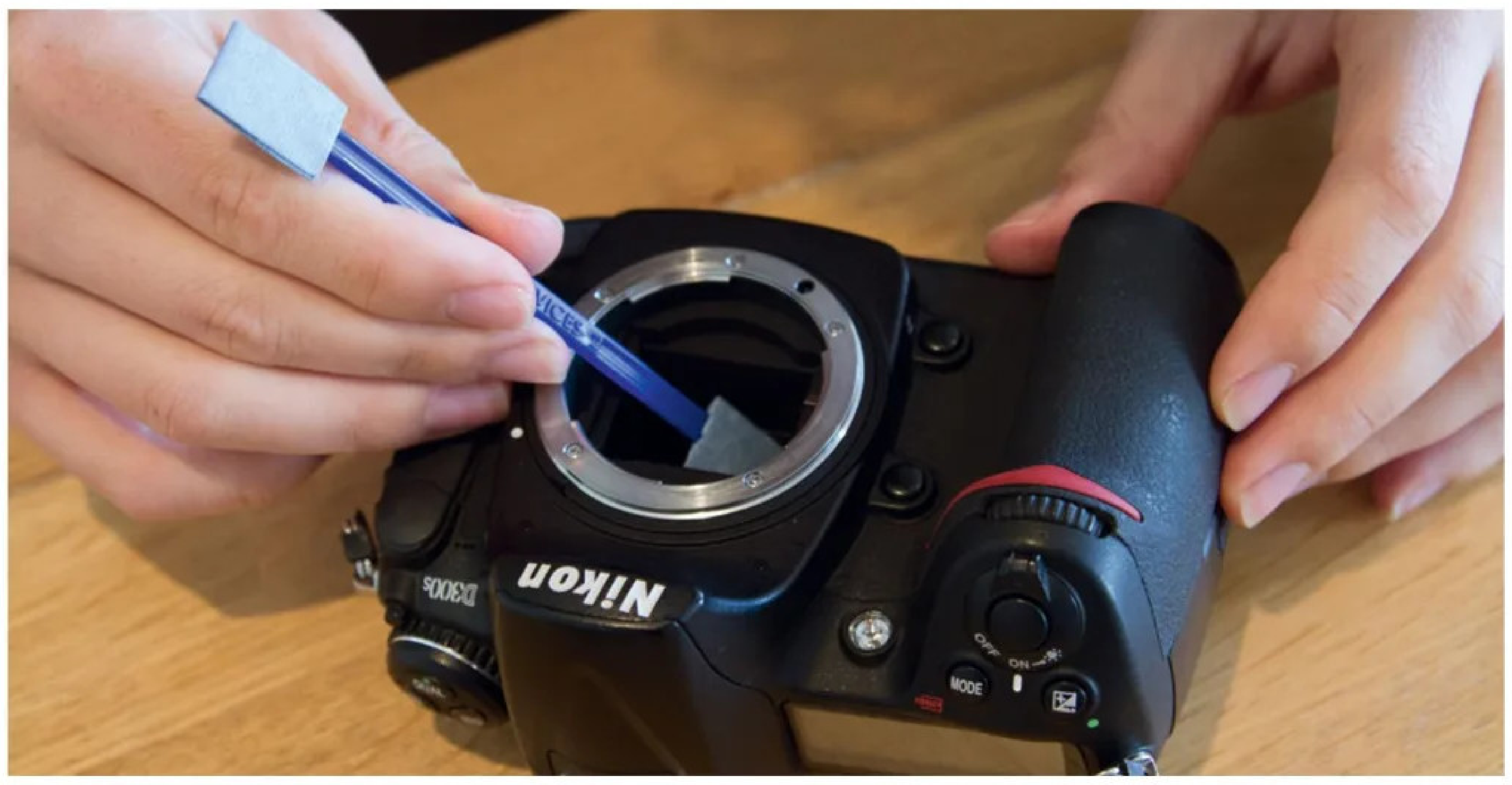
When shutter button is pressed, the mirror lifts and shutter opens. To lower mirror, turn camera off.

04 Lock the mirror up

In order to clean the sensor the mirror must be locked up and the shutter moved out of the way. This is within the Setup menu on most Nikons, although you may need to consult your manual for the exact location. If the option is greyed out, it's because the battery isn't charged enough.

05 Wipeout

Put a few drops of solution onto your swab, leaving the other end dry. Swipe left to right, then right to left, with the wet end. Only apply light pressure. Less is certainly more for this process, as too much solution and wiping can cause more harm than good.



06 Dry, try again

Using the dry side of the swab, gently swipe in both directions again – still applying minimal pressure. Remnants of solution should be absorbed, leaving the sensor streak-free. Repeat the checking process (step 3) to see if there are still dark spots on the sensor.

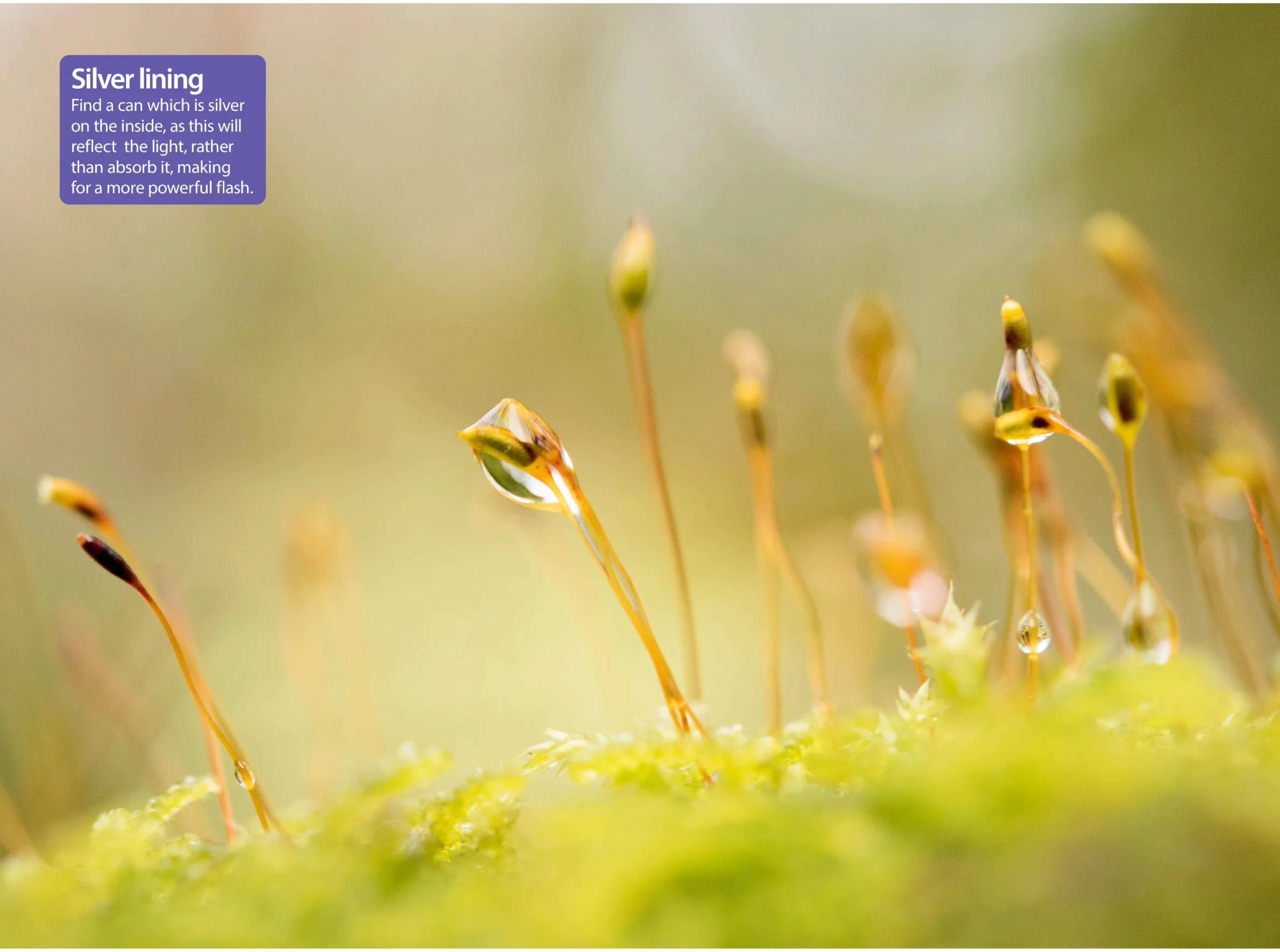
Capture crisp close-ups

We demonstrate how to get macro shots that pop using nothing more than a crisps can and some tissue paper

Here we're taking it back to basics with a cheap-as-chips lighting trick for great macro photos. You can lock away your light stand and flashgun for a well-deserved break; all you need for this fun tutorial are your camera's pop-up flash, an empty crisps can and a bit of tissue paper.

You'll also need very basic DIY skills – we'll be getting crafty with scissors and cutting the can down to size before fixing it to your camera with rubber bands – but the quality of light that's funnelled onto the subject is worth the minimal effort involved.

> "The quality of light that's funnelled onto the subject is worth the minimal effort involved"



Silver lining
Find a can which is silver on the inside, as this will reflect the light, rather than absorb it, making for a more powerful flash.

Step by step Funnel your flash

01 Set up your camera

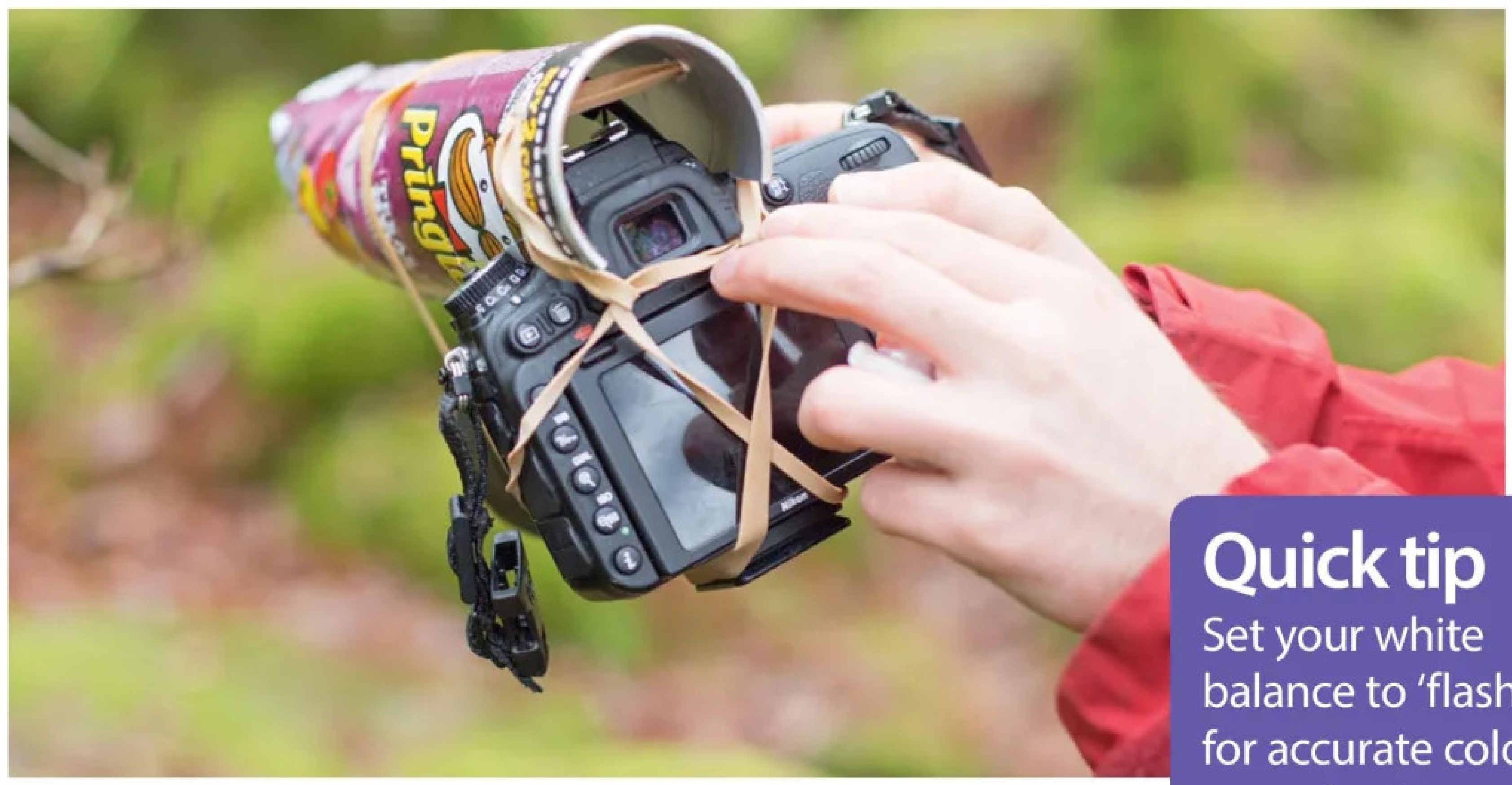
Turn your Nikon to manual mode and press the flash button on the side of the camera. On most Nikons you'll need to keep the button depressed and then scroll the sub-command dial until you reach standard flash mode. Use the command dial to drop the flash power to -1 stop.

02 Shape the can

Offer up your crisps can to the pop-up flash and see which bits you need to cut for it to fit around the unit while it's raised up. Mark the shape with a pen before cutting it to size. Cut the front off at an angle so that the light is forced down across the area in front of the lens.

03 Add tissue paper

Use tissue paper taped across the angled cut to diffuse the light and soften shadows. Don't use too many layers or the flash power will be significantly reduced and you won't be able to light the subject properly. If you want something more robust, try a shower curtain cut to size.



04 Attach your diffuser

Make holes in the can with scissors and poke rubber bands through them to strap the can around your Nikon. Using rubber bands makes it easy to take the can off when you want to shoot something other than a close-up, as we did while walking around this forest.

Quick tip

Set your white balance to 'flash' for accurate colour reproduction

05 Get in close

With a macro lens on the camera, set an aperture of f11 or f16; depth of field gets shallower as you focus closer, but a small aperture counteracts this a little. We're using an ISO of 1250 and a shutter speed of 1/80 sec to ensure that the background that's not lit by the flash is visible.

06 Experiment with composition

Try a different composition by turning your camera vertically; this often suits tall, thin subjects. If you're photographing delicate subjects such as fungi, be aware of how close your makeshift diffuser is. The last thing you want to do is bump into them and cause damage.

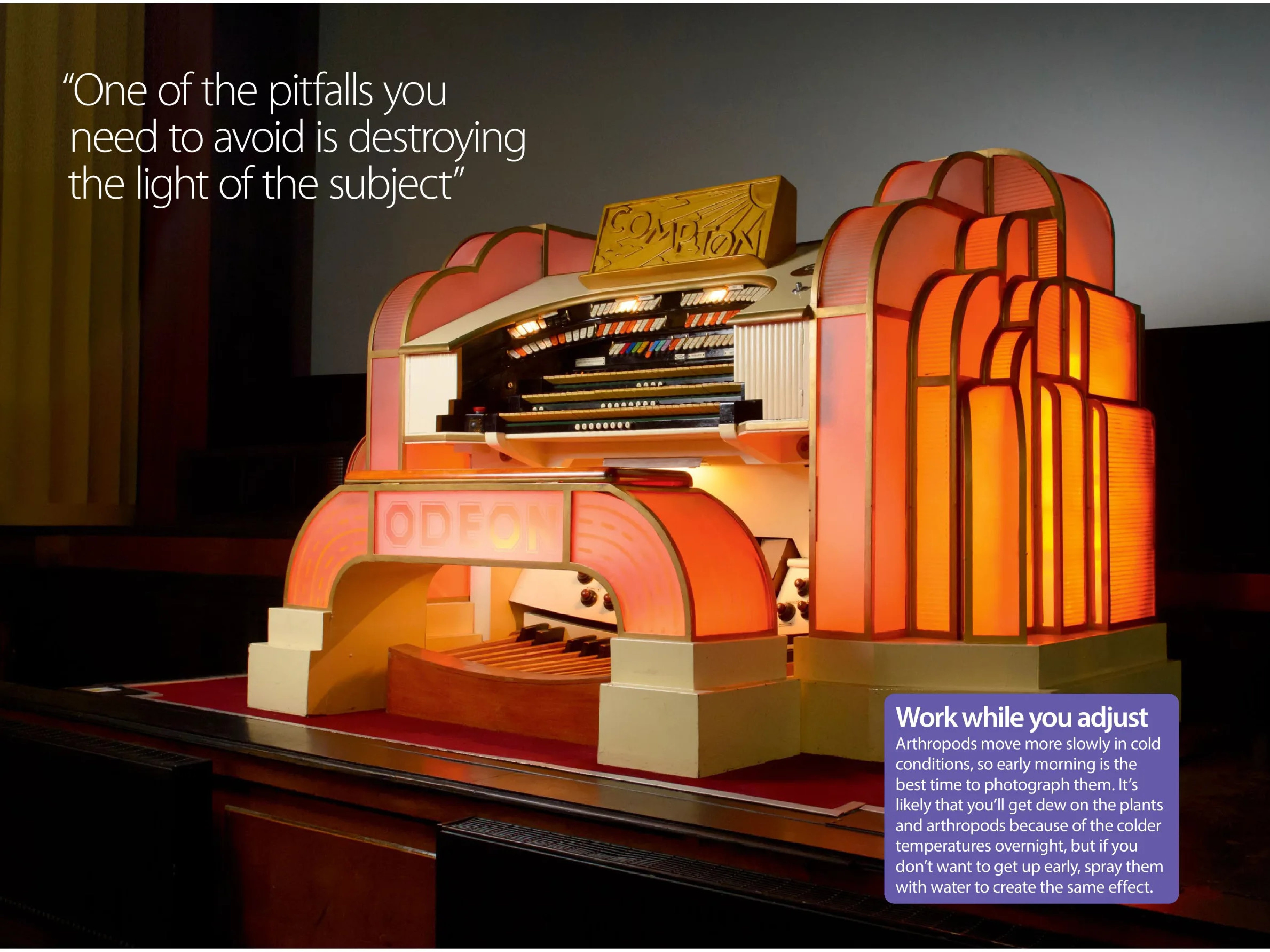
Let it glow

Discover how to combine flash and ambient light to capture vibrant images of illuminated subjects

When something's too dark, simply pop a trusty flashgun on your Nikon and it becomes well-exposed, right? Well, not always. We hope that the series so far has helped you to feel pretty confident about getting good exposures with your flashgun, which you can use in many instances. But if you're shooting an object with its own light source, there's a little more to think about than usual.

When photographing subjects that light up themselves, it can be easy to run into all sorts of problems. One of the pitfalls you need to avoid is destroying the light of the subject in favour of brightly exposing the image with flash light. Here we'll show you how you can balance the ambience and the interest of the subject that's lit up with the power of the flash light, for a brilliantly exposed photograph. We went to the Odeon cinema in Weston-super-Mare to shoot the original, and still functioning, 1930s Compton theatre pipe organ. The organ is enveloped in cascading, colour-changing lights that look beautiful to the naked eye but make it difficult to balance the exposure of the flash and ambient light.

If you can't get to Weston, you can apply this technique to any subject you're photographing that lights up, including toys, models and lighting fixtures. Let's see what we need to do…



"One of the pitfalls you need to avoid is destroying the light of the subject"

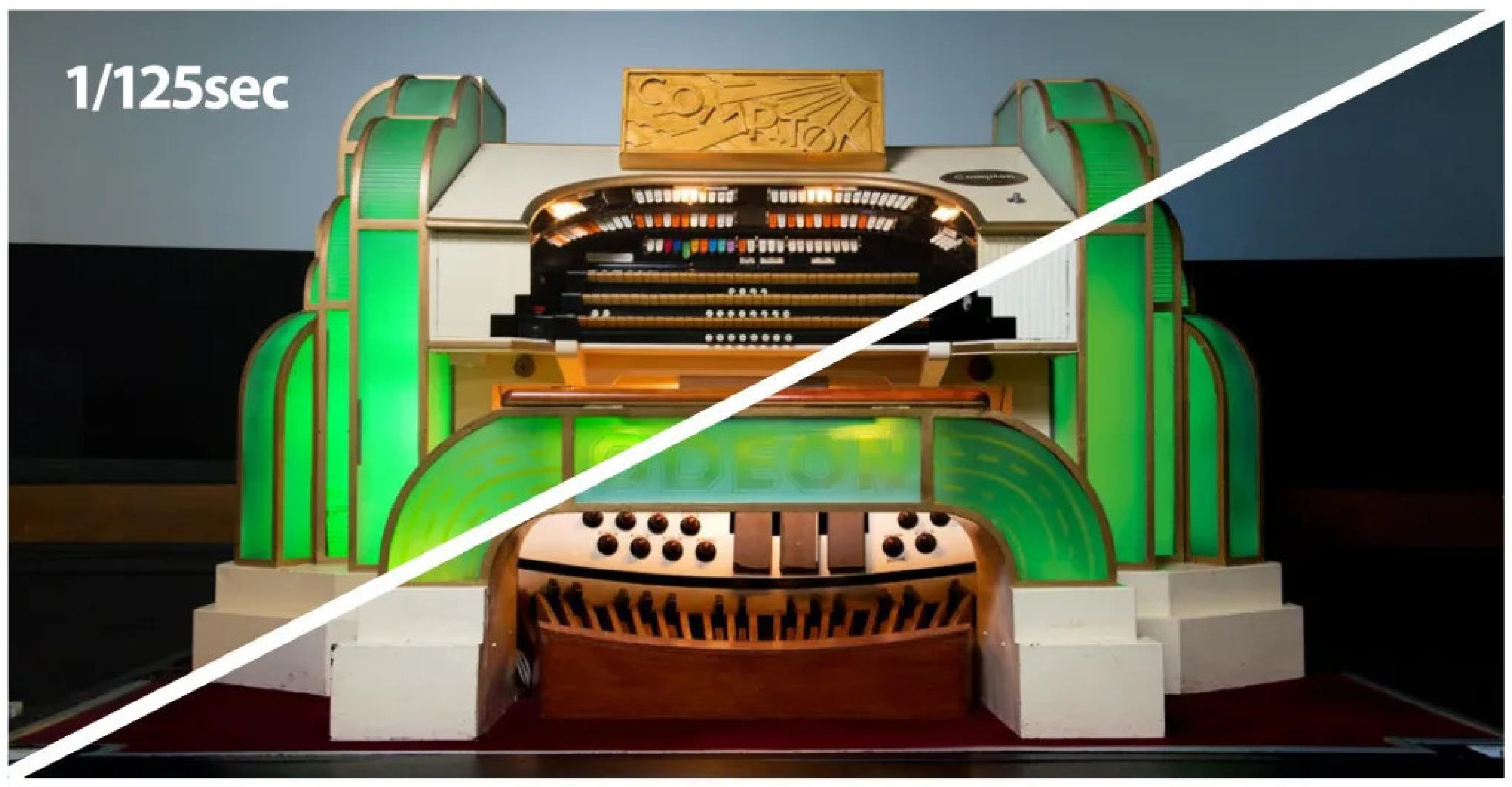
Work while you adjust

Arthropods move more slowly in cold conditions, so early morning is the best time to photograph them. It's likely that you'll get dew on the plants and arthropods because of the colder temperatures overnight, but if you don't want to get up early, spray them with water to create the same effect.

Step by step Strike a balance

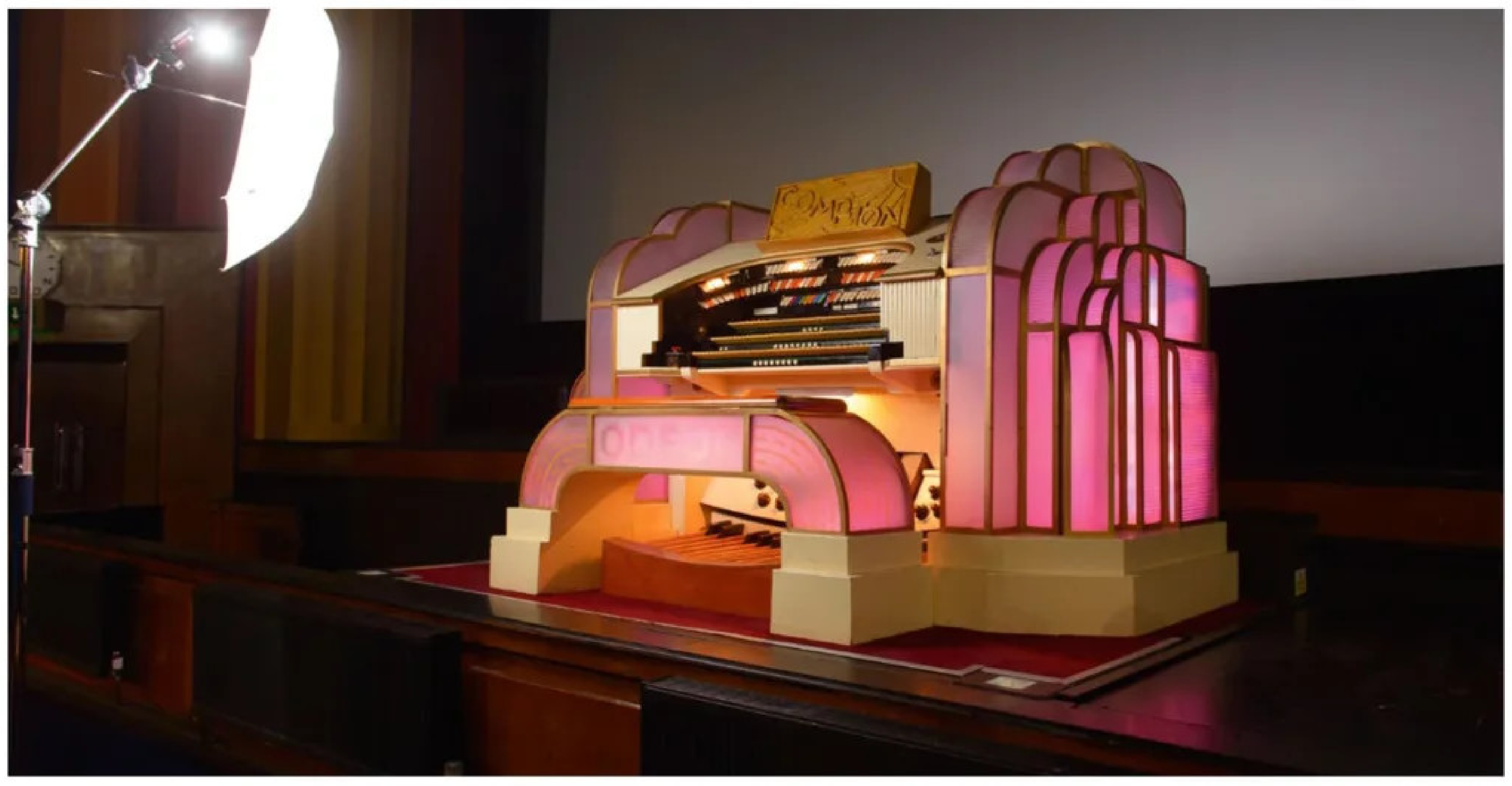
01 Read the meter

Set your Nikon on a tripod and put it in manual mode. Take a meter reading by looking through your viewfinder and noting the light meter. Aim for around the centre of the meter for this situation, because we have no bright highlights or dark shadows.



02 Set the speed

At 24mm, an aperture of f5.6 kept the organ in focus from front to back. Starting at the flash sync speed (1/200 sec), decrease the shutter speed until you get the light meter reading the correct exposure. During the shoot we experimented with speeds of 1/125-1/20 sec.

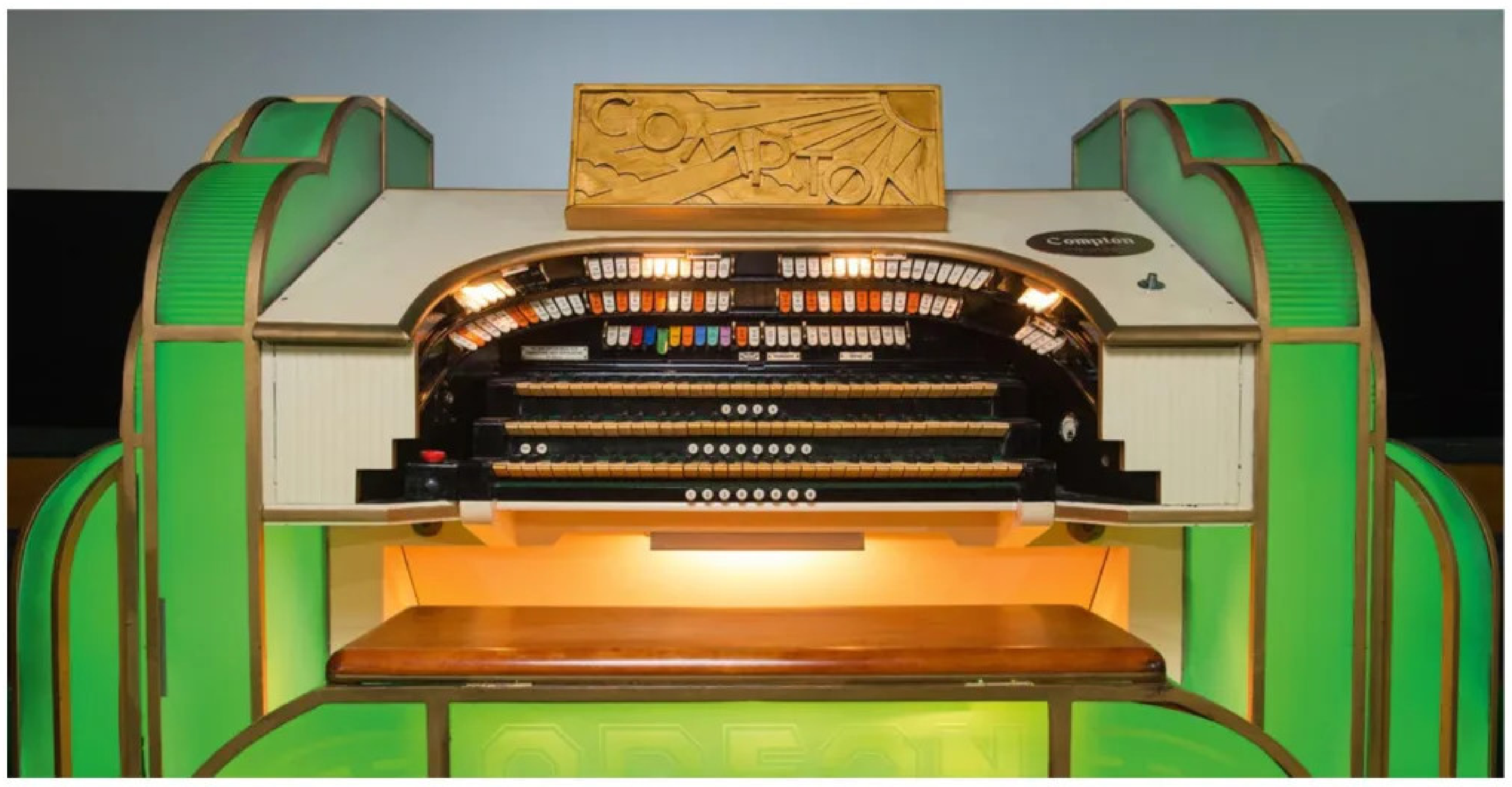


03 Light it up

Put a flash trigger on your Nikon and your flashgun. Put the flashgun on a light stand and set the power to 1/32 power. Put a diffuser on the light to spread it over the entire subject. If it's not bright enough, turn up the flashgun power, but don't touch the camera settings.

04 Move it around

Move the flash around to get different looks and frame it so you can still see the lighting underneath. We side-lit the keys and turned the Nikon side-on to the keys to get that shine on the front of the black keys. Because the light was diffused by an umbrella, the keys were lit evenly.



05 Frame your shot

Try out some compositional tricks to see what works for your subject. If you're shooting a symmetrical subject, frame up to emphasise that symmetry. By framing the console straight-on you can see the butterfly switches bowing around the horseshoe shape at the edge.

With thanks to:
Dawn at The Odeon Cinema, Weston-super-Mare, and Fred Smedley and all at the West of England Theatre Organ Society. For concert times and info, visit www.wetos.co.uk

06 Add a model

Use a model to bring your subject to life and to add a sense of scale. If your subject is something that can be used, then capture it being used. Jason is actually a theatre organist, so he jumped up on the bench and ran the organ through its paces for a few shots.

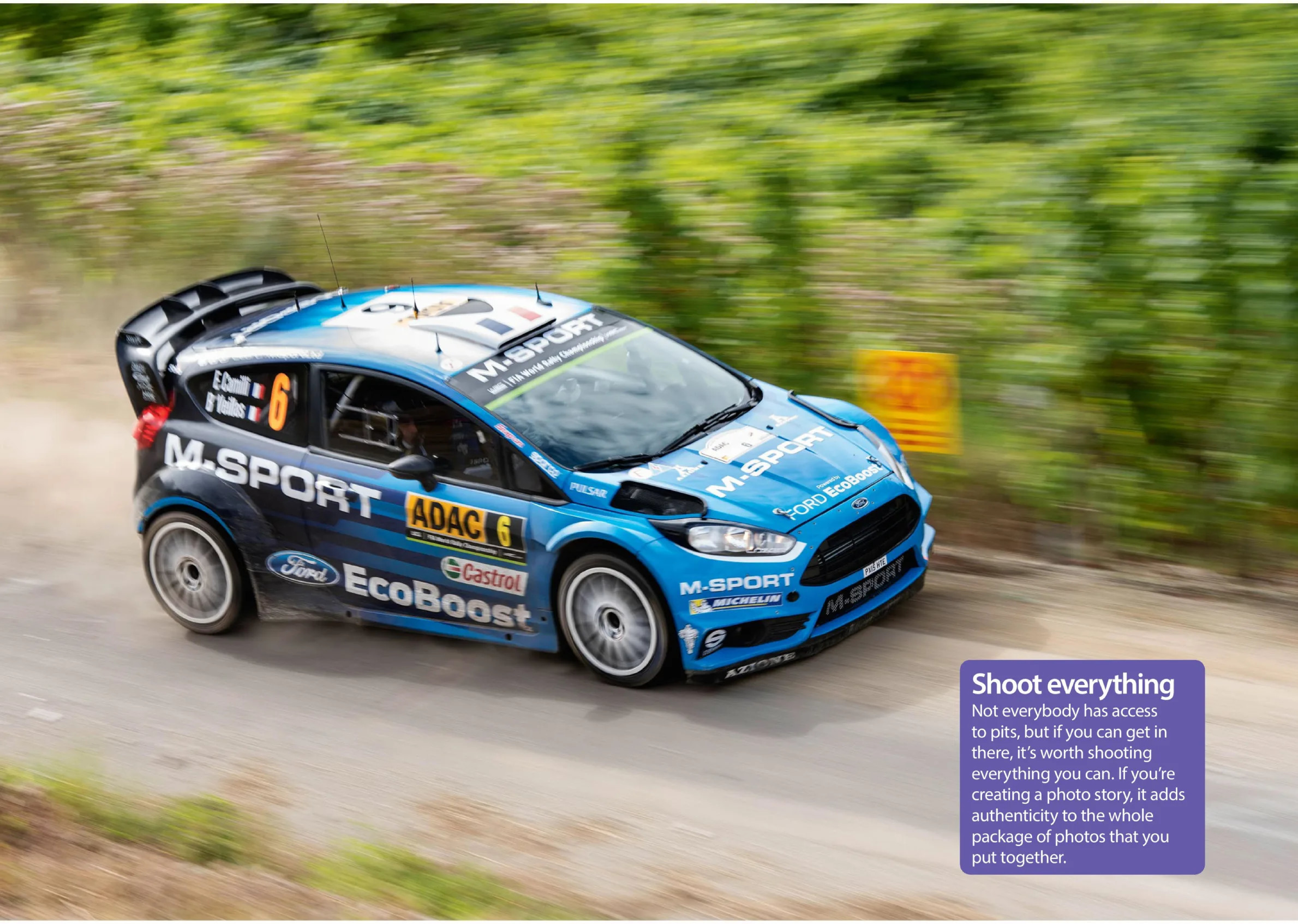
Convey thrilling action

Learn some handy techniques that will help take your rally pictures to pole position

Taking clear action shots of fast-paced sports, such as rally racing, may sound hard, especially with everything zipping by so quickly, but it is possible. Breathe, take time to enjoy it and to plan your shots, and you'll get a selection of photographs to be proud of.

You'll need to keep your Nikon steady and smooth. Panning is also an important technique to master, and the right shutter speed is key to achieving an image that is not only sharp, but that also gives a sense of speed. We went to leg nine of the 2016 World Rally Championships in Trier, Germany, to take our shots. This event boasts the best drivers and vehicles in the world, tearing around at breakneck speeds, but you should be able to shoot similar images at any local rally. With the cars ripping around the course, let's see what you need to do to get winning shots.

> "Panning is also an important technique to master, and the right shutter speed is key in achieving an image that is sharp"



Shoot everything

Not everybody has access to pits, but if you can get in there, it's worth shooting everything you can. If you're creating a photo story, it adds authenticity to the whole package of photos that you put together.

Step by step Follow that car!

01 Frame your shot

Not every position you shoot from will be ideal, especially if you only have a spectator ticket – you'll be crowded in with many other people, fighting for space. If you find your view is obstructed, use it creatively. Frame the cars with bushes and trees to put focus on the vehicles.

02 Capture the dust

As the cars drift around corners they'll kick up dirt, gravel and water. And whatever the track conditions, plumes of smoke will billow up in places. Find a corner where the dust is visible and shoot that corner, making sure your composition emphasises the smoky, dusty atmosphere.

03 Nail a wheelie

Depending on the track you visit, there may be jumps or tight corners. Some daring drivers can give you some dramatic photos. Crouching or even lying down low will help you to show the gap between the tyres and the road, and will make it seem like the car is higher off the ground.

04 Pan for gold

Panning while shooting creates a sense of movement, keeping the car sharp and in focus and the background blurred. To do this use a slow shutter (turn on VR and mount your Nikon on a monopod) and use a narrow aperture of f8 or f11 to maximise sharpness on the car.

05 Tilt and zoom

To add dynamism to your shots, tilt the camera. The more extreme the angle the more dynamic it'll look, but you'll also need a car to be doing something dramatic. The VW here drifts around the first corner and narrowly misses the bollard that marks the apex of the turn.

06 Dish the dirt

As the cars come to the end of a rally stage you'll notice mud and grass lodged in car parts and damage to the vehicles. Capturing these details helps to convey the lengths that the drivers go to in order to achieve pole position, as every fraction of a second counts.

With thanks to:
James Bolton and all at Volkswagen. For more information on Volkswagen and WRC visit: www.volkswagen-motorsport.com

Make a splash

Learn the skills you need to capture a water drop photograph that isn't just another drop in the ocean

Ever wondered how to create those water drops that seem to magically hang in mid-air? It's not Photoshop trickery; you just need some simple ingredients to concoct your very own drop shot. The principle is simple; by releasing a drip into a bowl full of water you can create a perfect spherical splash with concentric ripples that propagate outwards.

With the camera set to the flash's sync speed, it's not the shutter that freezes the water drop but the flash of light. A typical burst of flash lasts between 1/30000 and 1/1000 sec, which is much faster than any shutter speed. It's all in the timing, You'll need to fire the shutter a fraction of a second after releasing the water drop.

This comes with practice – and luck. You'll need to set high-speed continuous shooting mode and fire plenty of frames before you get the perfect shot.

You can get experimental with food colouring and different liquids, such as oil or milk. But let's keep things simple and start off with good old H20…

> "By releasing a single drop into a bowl full of water you can create a perfect circular splash with concentric ripples"

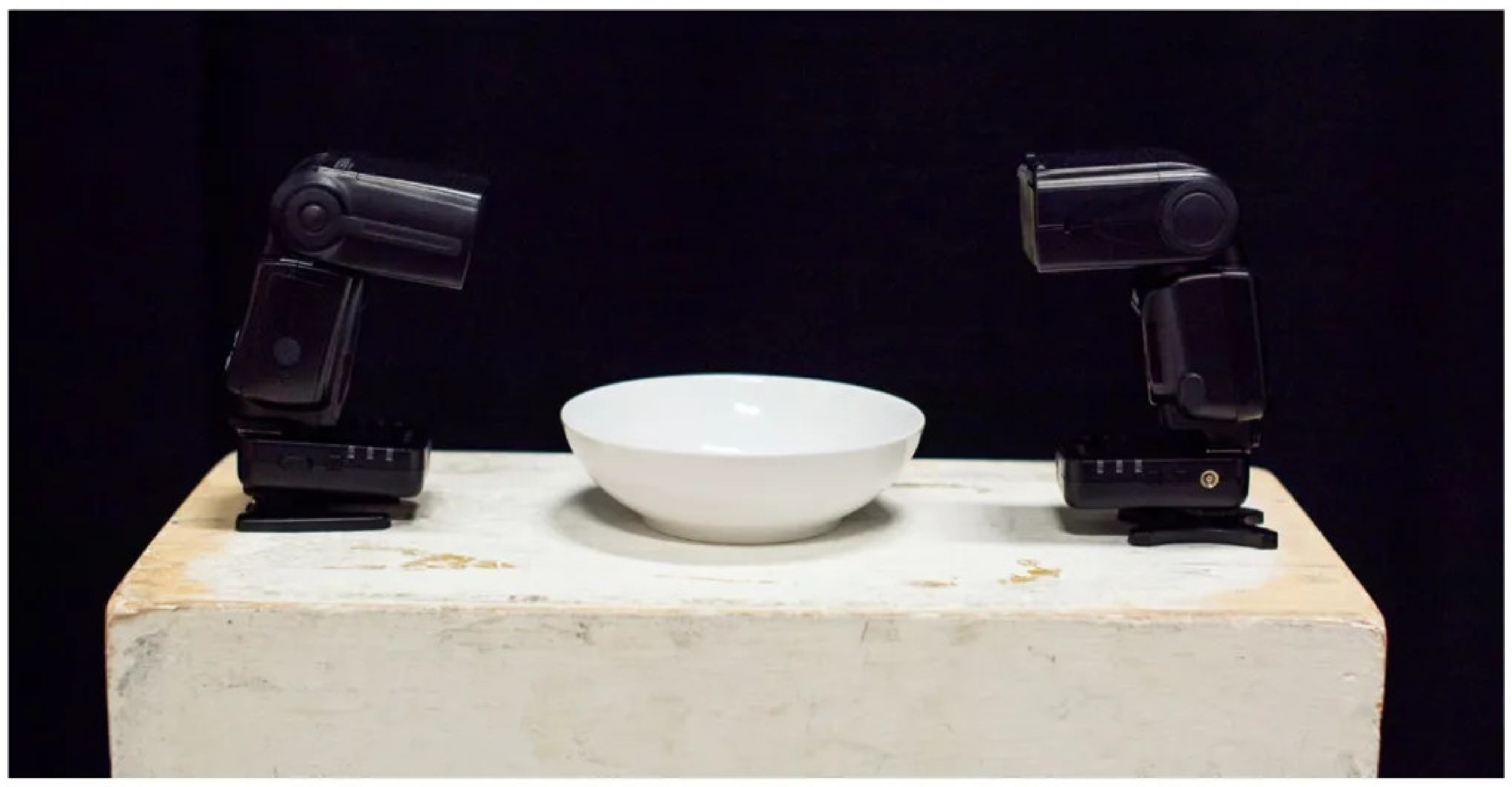
Going further

You can try different types of liquid, like oil or milk. Different viscosities will alter the shape of the drops and the resultant splash. You could also experiment with food colouring in the pipette to create complex structures as the water splashes upwards

Step by step Drip feed your Nikon

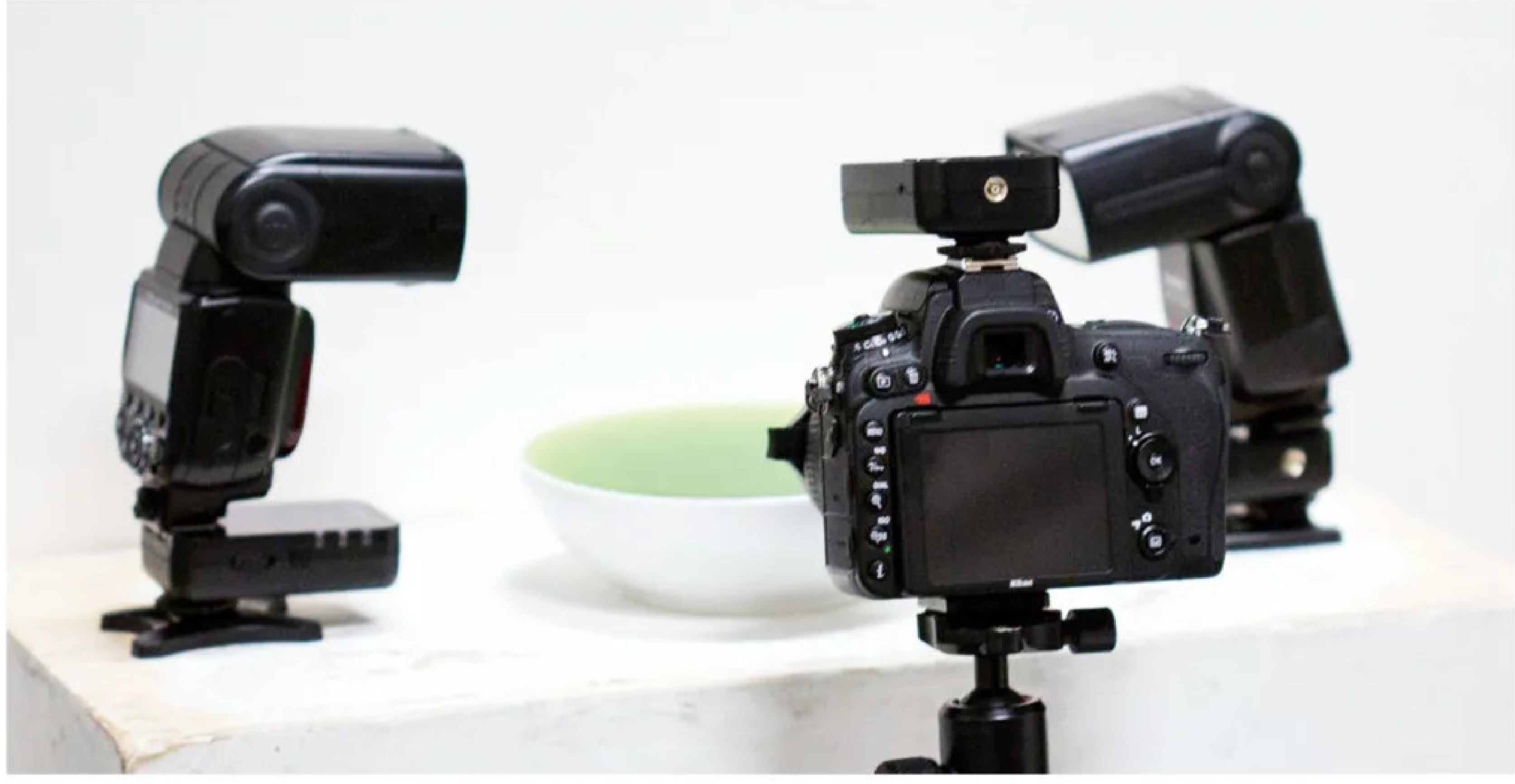
01 Get set up

You'll need a bowl or dish to hold the water and a pipette – or 'eyedropper' – to squeeze water out, a drop at a time. The height that you hold your pipette will determine the shape and size of your water drop, so experiment with different elevations and see what you prefer.



02 Add some flash

The key to good water drop photography is to place a flash either side of the bowl, firing across the end of your lens (so it's wise to use a lens hood to prevent flare from spoiling your shot). This gives shape and form to your splash, making it seem like a sculpture in your final shot.



03 Angle your camera

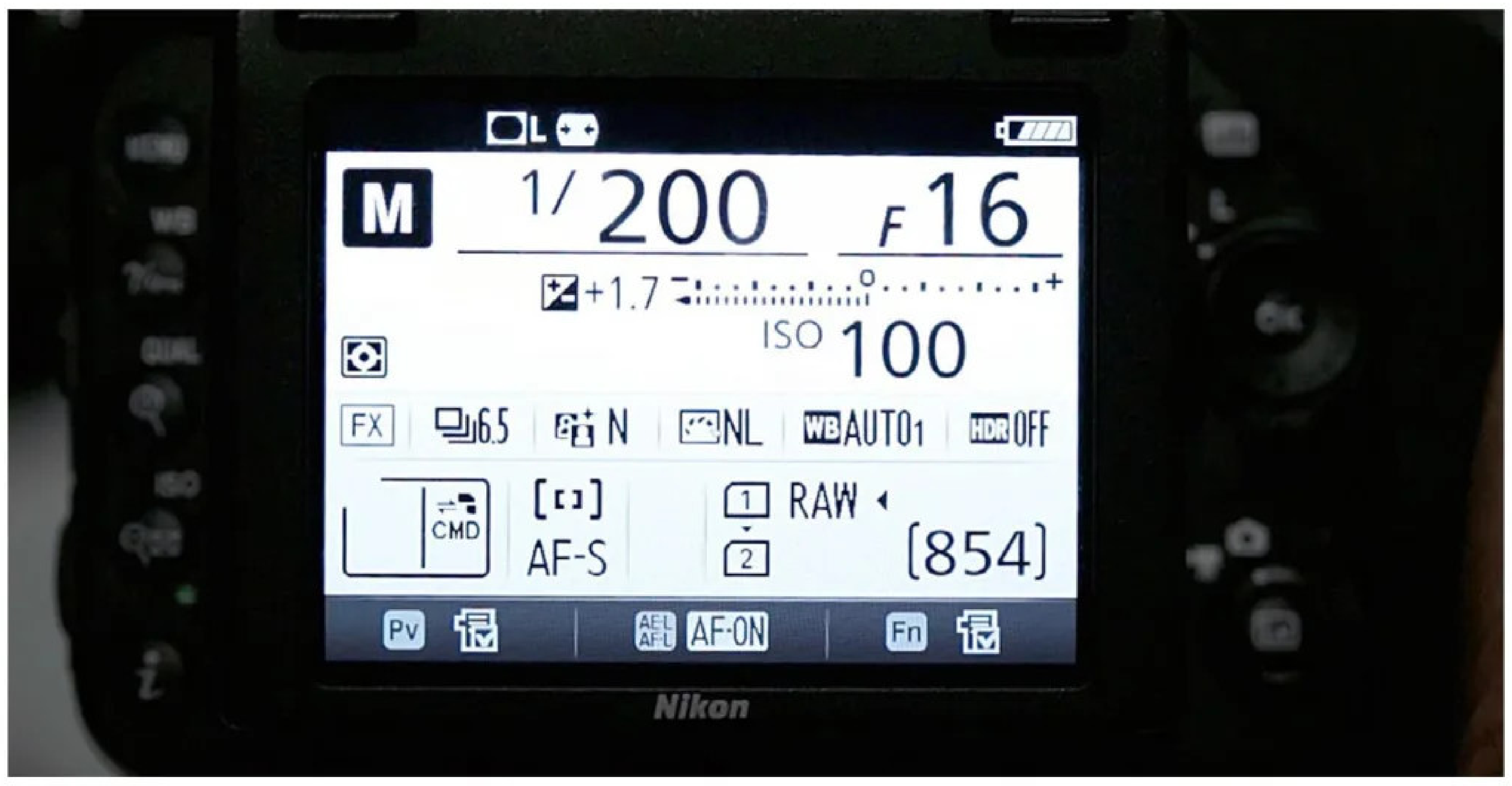
Mount your Nikon to a tripod and line it up with the dish of water so that you have a slight downwards angle across the surface of the water. This angle helps to eliminate the edge of the bowl in the background, which would otherwise be a distraction.

04 Lock the focus

Zoom in until your entire frame is filled with water. Place the pipette in the centre of the bowl and using autofocus to focus on the pipette until it's sharp. Then slide the AF switch to the manual focus position to avoid the camera attempting to focus each time you take a shot.

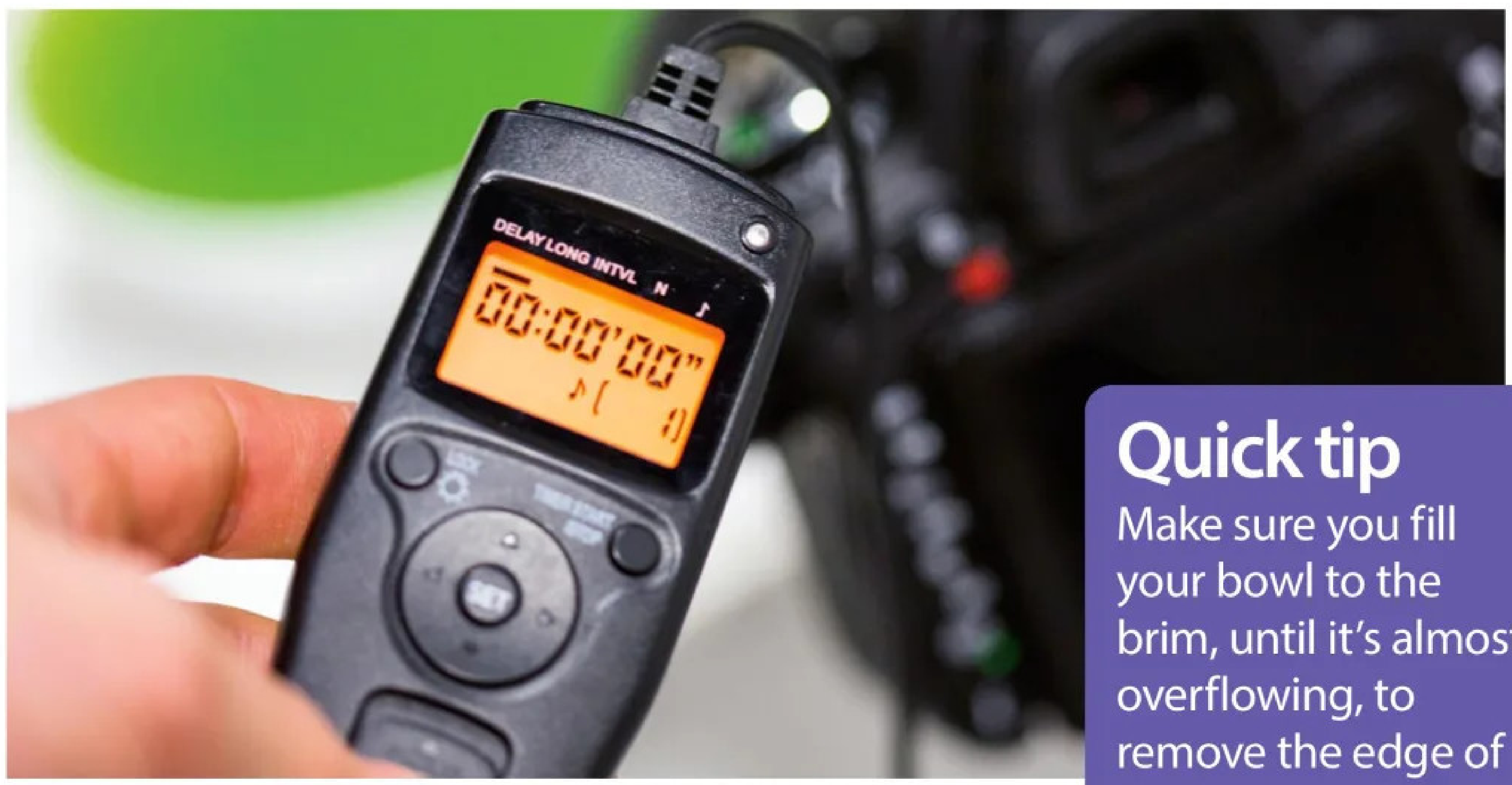
The dropper

If you don't have a pipette then, at a pinch, a straw will do the job. Pouring liquid off a spoon won't be accurate enough to produce a single drop.



05 Set the exposure

We used a close-up filter to focus closely on the drop. In manual mode we set an aperture of f16 for increased depth of field, a 1/200 sec shutter speed to match the flash sync speed and ISO100 to minimise noise.

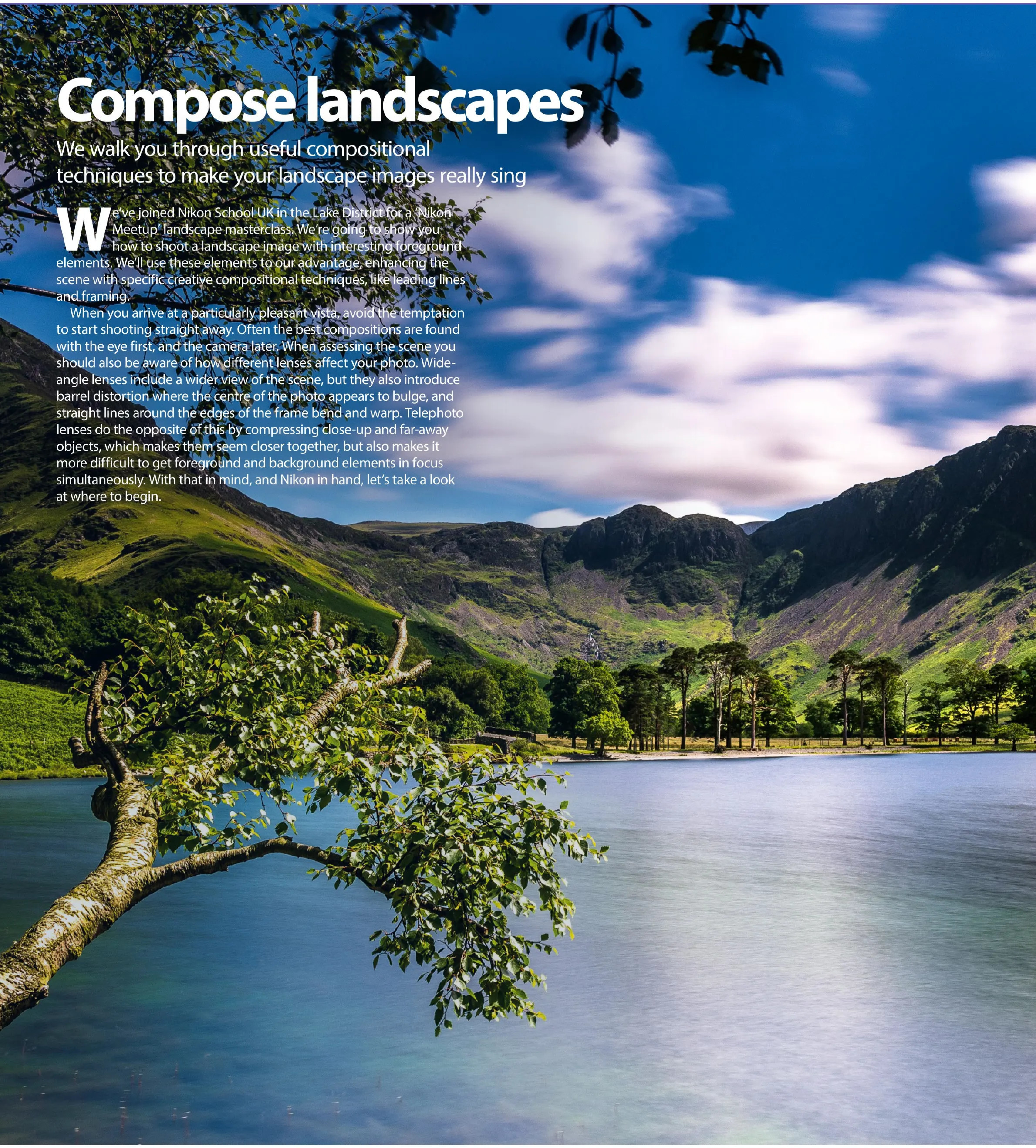


06 Time it right

Using a remote shutter release gives you the ability to be further away from your Nikon camera body. This is helpful if you're shooting by yourself, so you can trigger the shutter at the precise moment that you simultaneously release the water drop.

Quick tip

Make sure you fill your bowl to the brim, until it's almost overflowing, to remove the edge of the bowl in your shots.



Compose landscapes

We walk you through useful compositional techniques to make your landscape images really sing

We've joined Nikon School UK in the Lake District for a 'Nikon Meetup' landscape masterclass. We're going to show you how to shoot a landscape image with interesting foreground elements. We'll use these elements to our advantage, enhancing the scene with specific creative compositional techniques, like leading lines and framing.

When you arrive at a particularly pleasant vista, avoid the temptation to start shooting straight away. Often the best compositions are found with the eye first, and the camera later. When assessing the scene you should also be aware of how different lenses affect your photo. Wide-angle lenses include a wider view of the scene, but they also introduce barrel distortion where the centre of the photo appears to bulge, and straight lines around the edges of the frame bend and warp. Telephoto lenses do the opposite of this by compressing close-up and far-away objects, which makes them seem closer together, but also makes it more difficult to get foreground and background elements in focus simultaneously. With that in mind, and Nikon in hand, let's take a look at where to begin.

Shoot Raw

Shooting Raw means you'll be able to make many adjustments on the computer later on, such as white balance, exposure, clarity and so on. Raw files are vastly more editable than JPEGs, and shots can be developed a lot more easily.

Shooting Essentials Prep your kit

01 Lock the tripod head

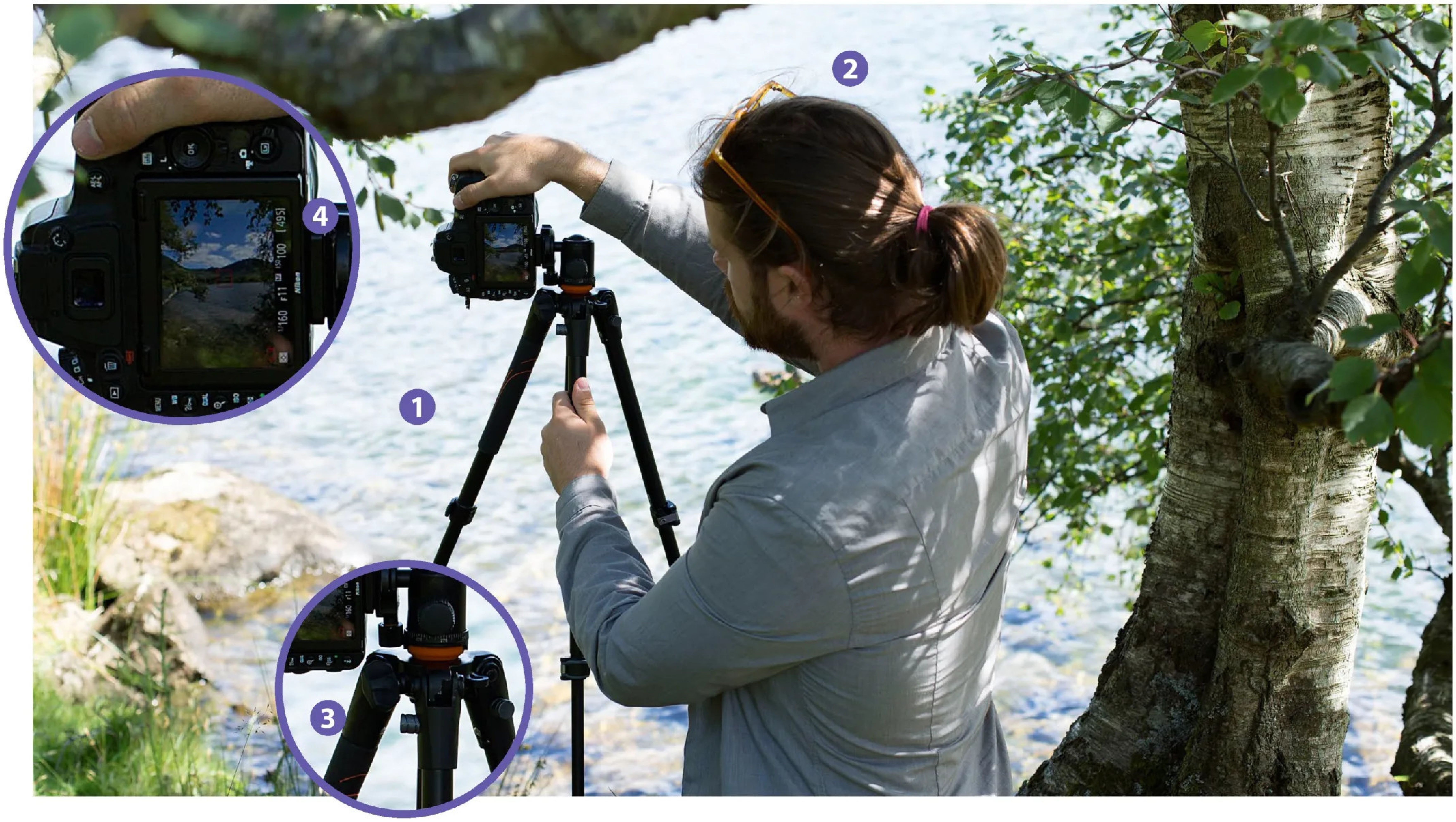
Make sure the footplate is screwed on tight to the Nikon body. If thumb-tight isn't good enough, use a coin in the slot on the screw thread (some footplates have a foldable 'wing', instead of a slot, to tighten them).

02 Lens choice

A wide-angle lens will make it easier for you to include multiple foreground elements in and around the frame. If you're not sure of the exact focal length you'll need, use the wide end of a standard zoom, like the 24-70mm here.

The next step

On location Framing your world



1 The scene
The lake is flanked with trees that perch out over the water. Finding an angle to include them will help to give the photograph context.

2 The weather
Check the weather beforehand. If you want to shoot a bright, sunny day, like we did, you should plan your trip around the forecast.

3 Tripod
You'll need a tripod to keep everything steady and sharp. Level off the legs so that the head is balanced and level before shooting.

4 Nikon DSLR
Our D750 has 24.3 megapixels and picks up great detail in the highlights and shadows, which makes it a great body for shooting landscapes with.

Step by step Composition tips for landscapes

01 Envisage the scene

We walked along the shoreline to find a composition that showed the lake, but also included interesting foreground elements. These craggy trees created a frame within our frame, a compositional technique that can be used to put emphasis on the centre of the frame.

02 Extend tripod legs

Set up your tripod. How much you extend the legs will depend on how high you want your viewpoint, but however high you need it, extend the thickest part of the legs first. Extending only the thinner sections will make it unstable, increasing the risk of camera shake.

Quick tip
If you're getting lens flare from the sun, place a lens hood on so that the front element of the glass is in shade.

03 Look for leading lines

This tree branch was perched perfectly creeping out over the water, and pointed out towards the mountains. A leading line that guides the eye into the frame is a helpful inclusion, anything that leads the eye out isn't ideal because it guides the viewer away from the photo.

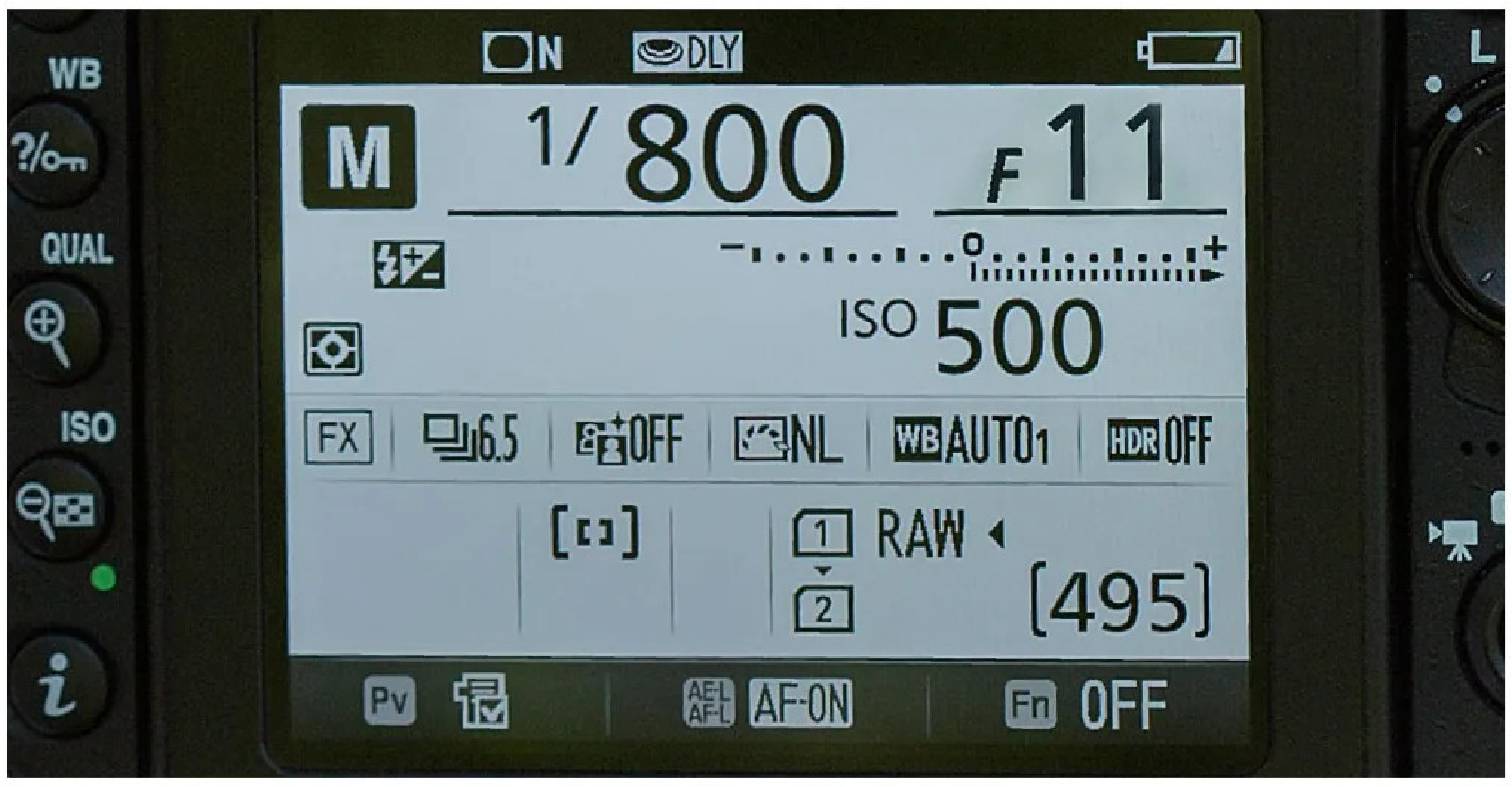
OK
1/160
F11
ISO100
[495]
Nikon

Quick tip

Don't have a lens hood? Simply use your hand to shield the unwanted rays.

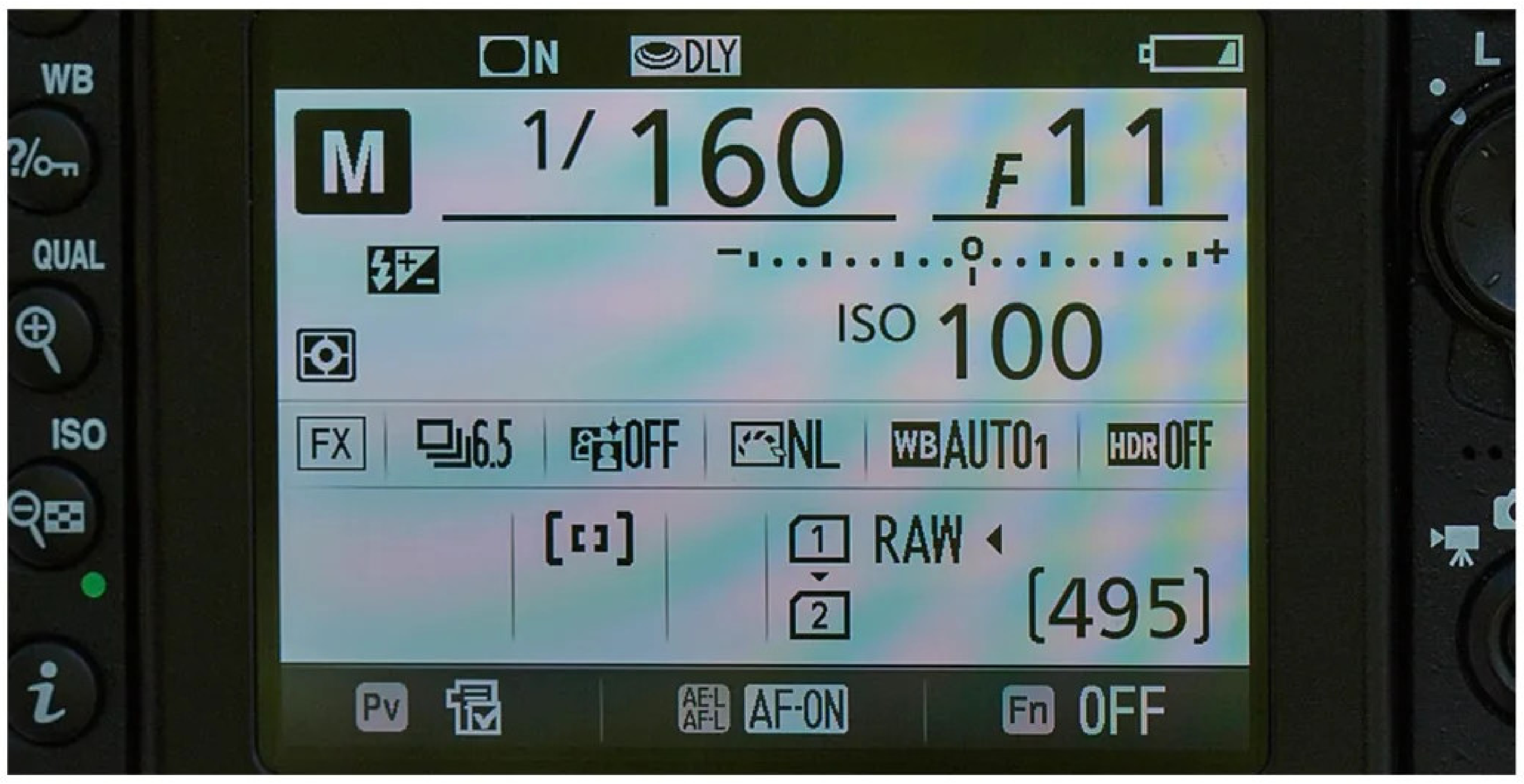
04 Focus manually

We turned on Live View and used the zoom to take a closer look. Looking into the distance on the screen we switched the camera into Manual focusing mode and turned the lens's focus ring. It took a bit of rocking back and forth on the focus ring until the image was sharp.



05 Narrow the aperture

We set a narrow aperture for maximum depth of field. This increases the range of focus and, if focused correctly, the foreground and background will be sharper. However, going above an aperture of f/16 will introduce diffraction and start making the image softer.



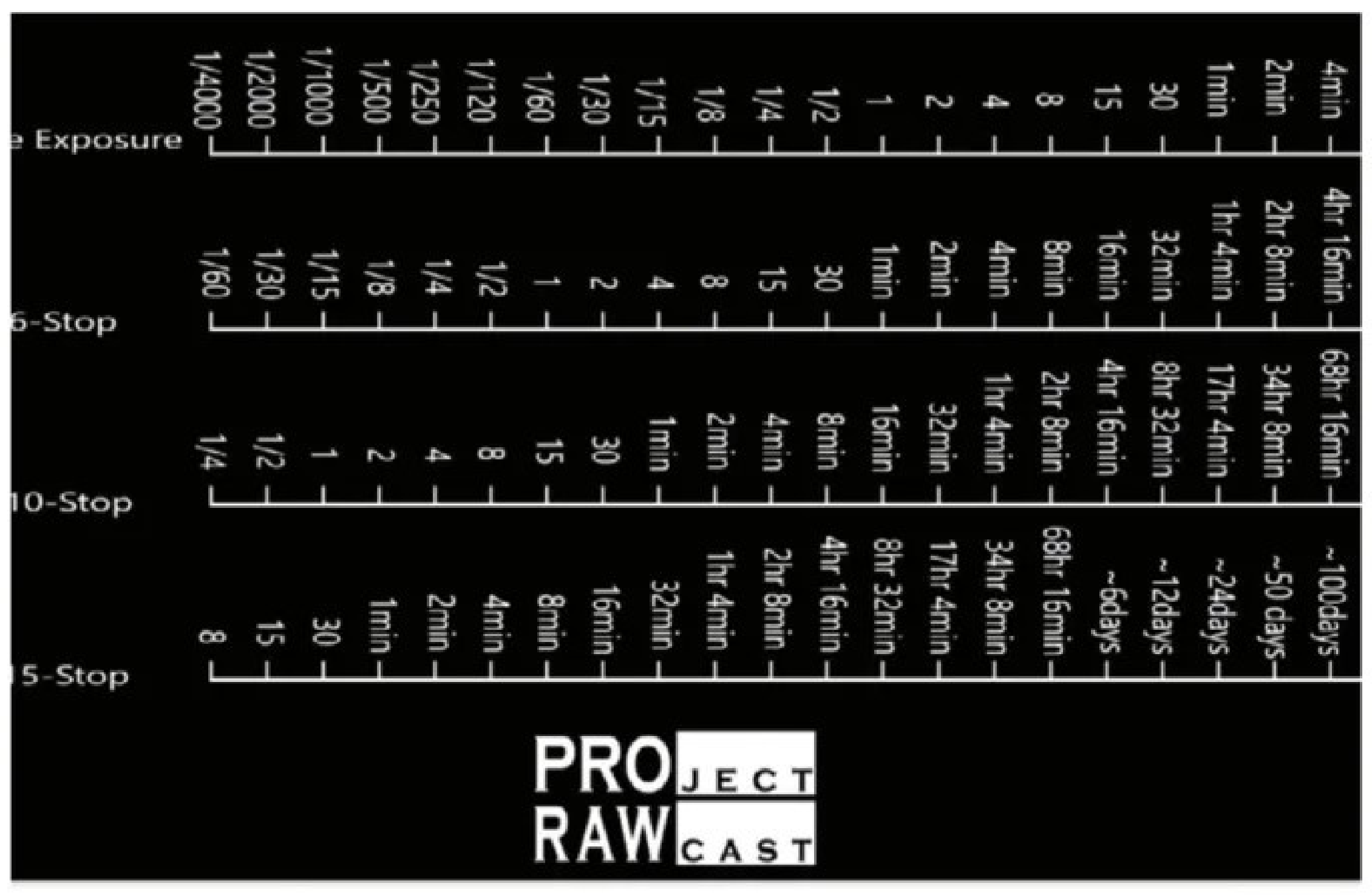
06 Shutter and ISO

At ISO100 and in Matrix metering mode, take a look at the light meter and adjust your shutter speed until you reach 0. This will give a good average exposure of the entire scene. Take a test shot and make the shutter speed faster if it looks a little bright, or vice versa.

Add movement Slow down your exposure with an ND filter

01 Blur it out

Once you have a few stills from your basic setup, liven up the scene with a longer shutter speed to blur moving elements, such as water and clouds. To do this you'll need a neutral density filter, which darkens your whole frame. Here a 10-stop filter gave us a 20-sec exposure.



e Exposure	6-Stop	10-Stop	15-Stop
1/4000	1/60	1/4	8
1/2000	1/30	1/2	15
1/1000	1/15	1	30
1/500	1/8	2	1min
1/250	1/4	4	2min
1/120	1/2	8	4min
1/60	1	15	8min
1/30	2	30	16min
1/15	4	1min	32min
1/8	8	2min	1hr 4min
1/4	15	4min	2hr 8min
1/2	30	8min	4hr 16min
1	1min	16min	8hr 32min
2	2min	32min	17hr 4min
4	4min	1hr 4min	34hr 8min
8	8min	2hr 8min	68hr 16min
15	16min	4hr 16min	~6days
30	32min	8hr 32min	~12days
1min	1hr 4min	17hr 4min	~24days
2min	2hr 8min	34hr 8min	~50 days
4min	4hr 16min	68hr 16min	~100days

02 Calculate your exposure

It's possible to use exposure calculators or charts to determine the difference in shutter speed to give a balanced exposure. But in Manual mode it's just as easy to click down the shutter speed by 10 stops on the camera and take some test shots to review as you go.

03 All in the timing

It's all well and good throwing an ND filter on and expecting good results, but you have to remember that only moving things will be blurred in the final shot. Wait for clouds to seep into the frame before taking your photo for maximum interest in the bottom and top of the frame.

Mountains by moonlight

Discover how to capture stunning scenes with lunar light in our amazing night photography project

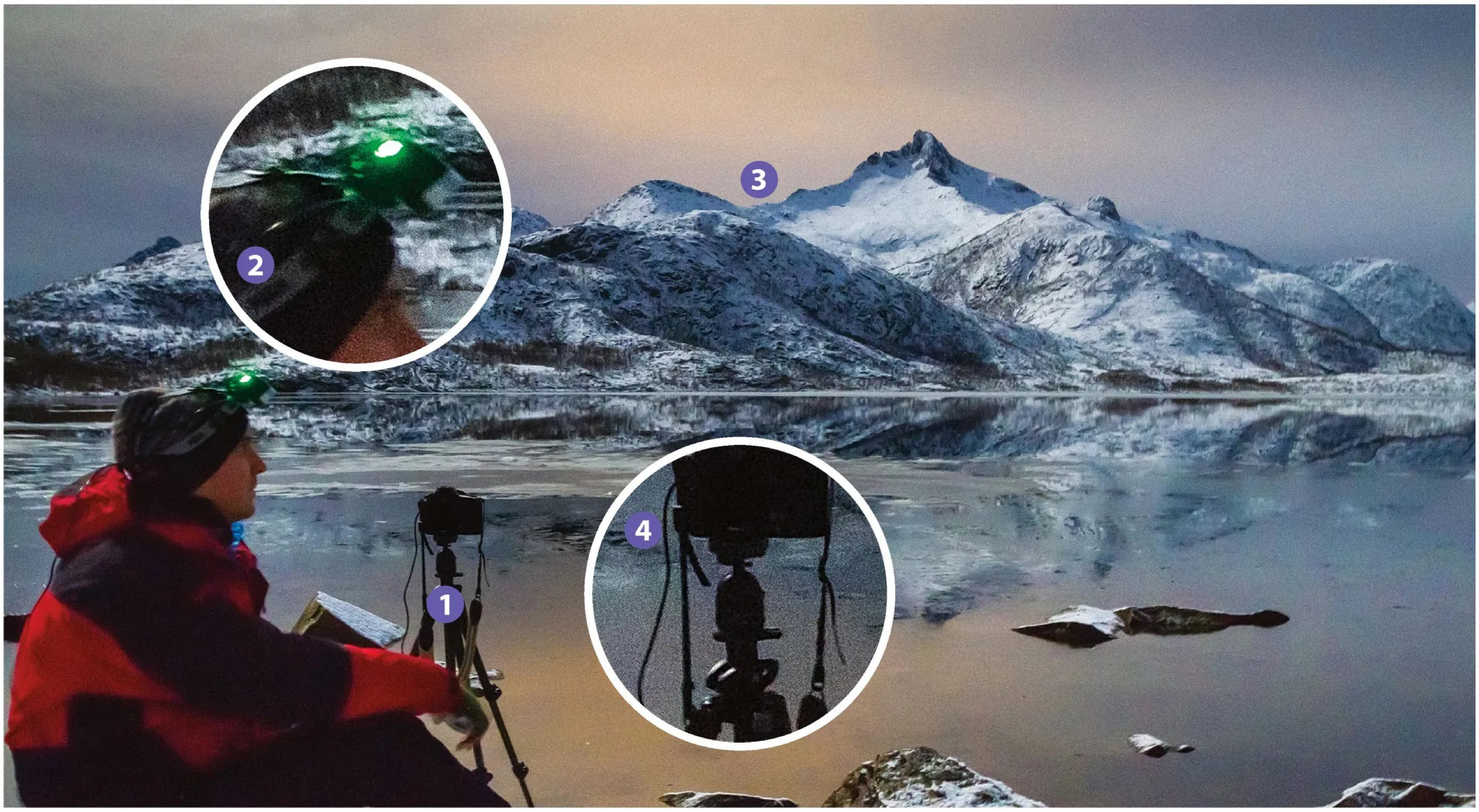
When you're shooting at a stunning location it's easy to lose yourself in the moment and, before you know it, the light starts fading. However, just because the sun goes down there's no need to head home. As long as the moon is fairly full and the sky is clear, you can continue shooting well into the night. This involves a very long exposure. We're not talking a few seconds here – more like a few minutes. Aside from the need for a tripod and remote release, we also have to be able to expose correctly for the moonlight. Our camera's Bulb mode is key to this – it lets us keep the shutter open as long as we like. But how do we work out the correct exposure length in the first place? Taking test shots costs valuable time, so instead the solution is to work out an equivalent exposure using a very high ISO and a short shutter speed. After nailing the high-ISO exposure, we can drop the ISO down and then extend the shutter speed for a higher-quality equivalent.

A moonlight shoot can be a challenge for your camera skills and your patience – especially when exposures can last eight minutes – but it's a chance to capture landscapes under the ethereal light of the moon, and the results can be beautiful.

Stay warm

When photographing in cold conditions, wear a pair of warm, fingerless gloves, so your hands remain warm when you have to remove your heavy-duty outer gloves to operate the camera controls.

On location Get set up to shoot with moonlight



1 Sturdy tripod
Other than your camera, a good tripod is an essential piece of kit for night-time shooting. When near water like this, make sure the legs have a firm footing.

2 Head torch
A head torch is useful for night-time shots. Apart from helping you safely navigate, you can also shine the torch on a foreground object to help focusing.

3 Light pollution
Light pollution is a common issue when shooting near built- up areas. While the glow can be unsightly, we think the orange sky (left) enhances the scene.

4 Cable release
Exposures longer than 30 secs must be taken in your Nikon's Bulb mode. A remote shutter release is essential for opening the shutter without vibration.

Top tips Capturing mountains at night

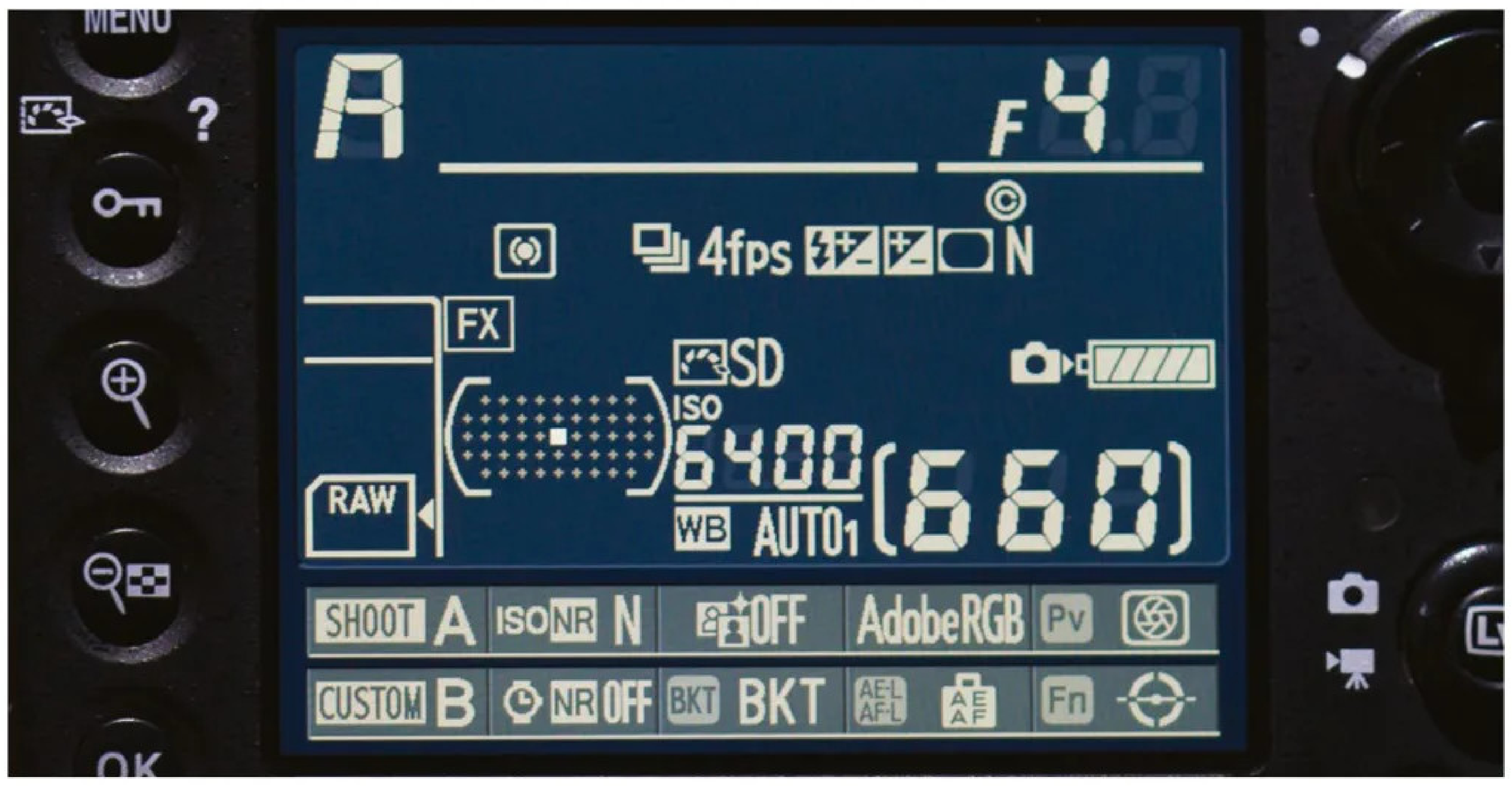
01 Directional moonlight

Just like the sun, moonlight is more interesting when it's directional. So compose your image with the moon off to one side, so that the scene is side-lit like this (and unlike the shot beside it). You can check the position of the moon throughout the night with apps like the Photographer's Ephemeris or PhotoPills.

02 Lakes and reflections

Look for scenes with water, as the flowing motion will be blurred during the long exposures, resulting in a smooth, velvety surface. A fairly still body of water, such as a lake, is ideal for mountain scenes as you'll get a mirror-like reflection. If the water is too choppy like this, then the mirror reflection will be lost.

Step by step Work out your night-time exposure


A
F4
4fps
FX
SD
RAW
ISO
6400
WB AUTO1
(660)
SHOOT A ISO NR N
OFF AdobeRGB
CUSTOM B NR OFF BKT
MENU
OK

01 Take a test shot

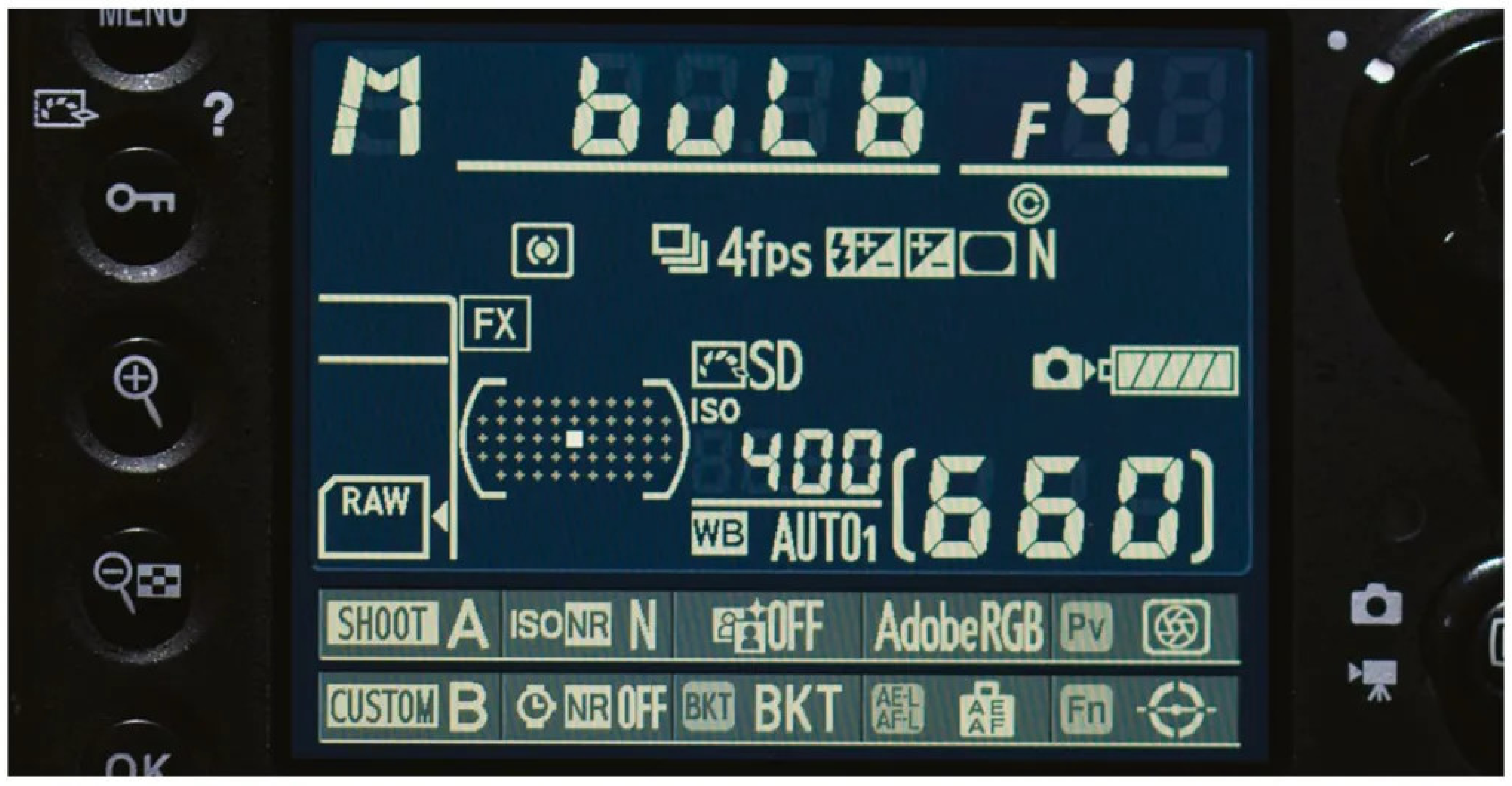
Increase your ISO to its highest setting (eg: ISO6400). Set Aperture Priority and choose a wide aperture like f4. At full moon our exposure should last no more than a few seconds. It'll be horribly noisy, but it means we can estimate a correct exposure without waiting ages.

02 Check the exposure

Examine the test shot to check if the exposure is right. If not, dial in exposure compensation and try again. While you're at it, zoom in to check that the focus is spot on. If you're happy, make a note of your exposure settings. Now you can lower the ISO for better image quality.

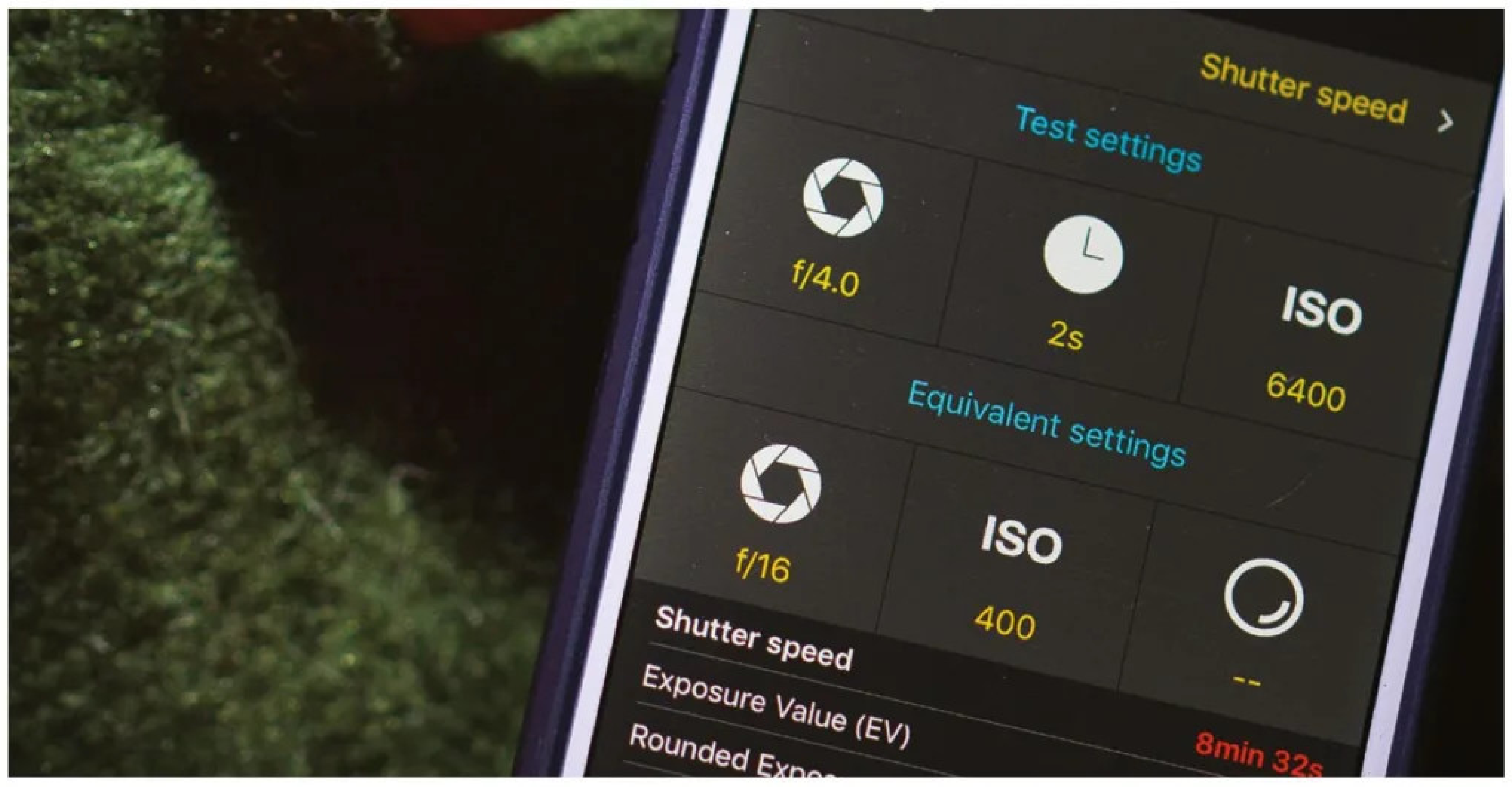
Quick tip

If you forget at the time, you can fix noise later. The Detail panel, found in both Lightroom and Photoshop's Camera Raw plug-in, is ideal – use the Luminance slider to reduce grain.


M bulb F4
4fps
FX
SD
RAW
ISO
400
WB AUTO1
(660)
SHOOT A ISO NR N
OFF AdobeRGB
CUSTOM B NR OFF BKT

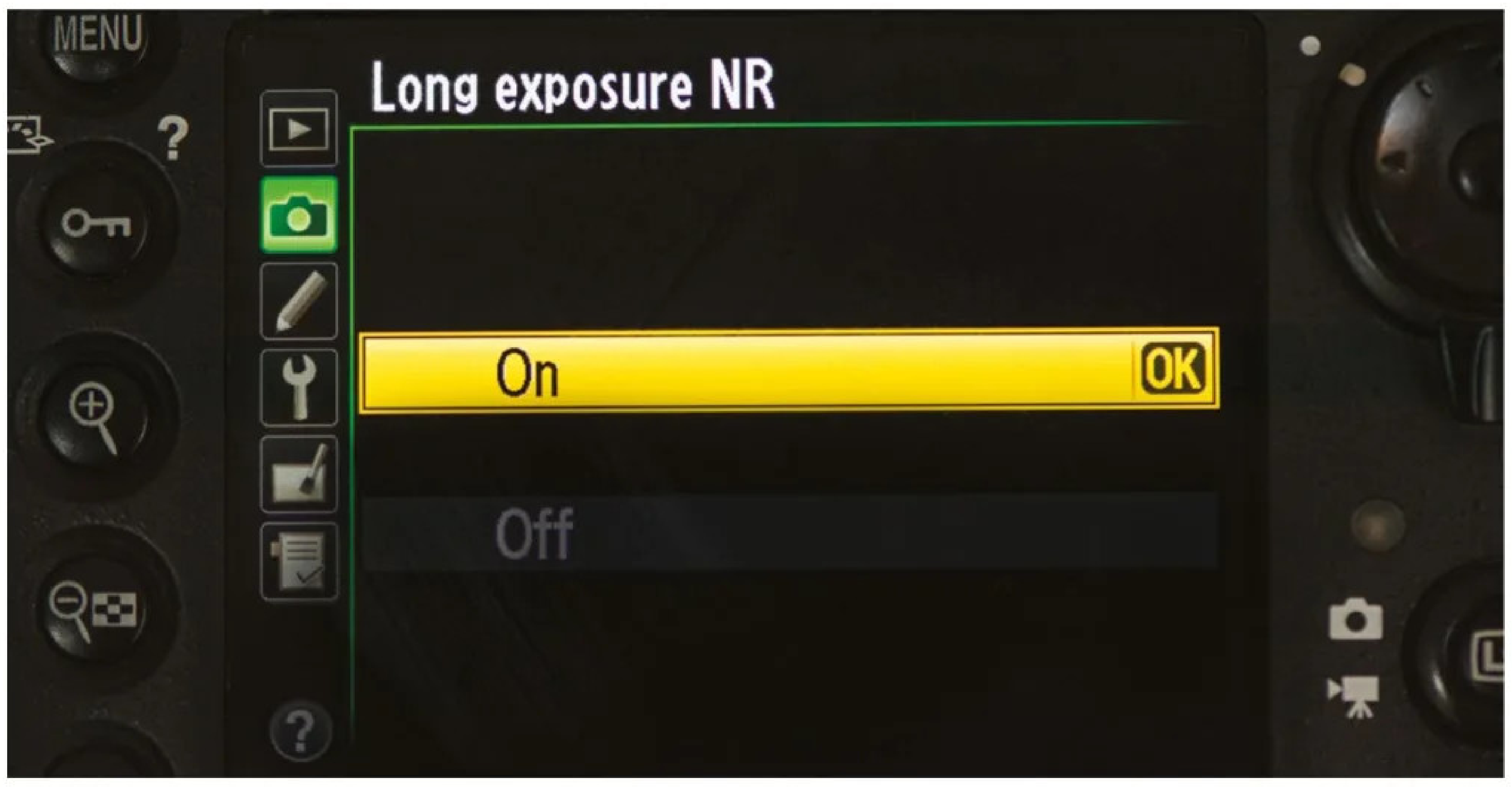
03 Lower the ISO

For each stop of ISO that we alter, we need to double the shutter length. Taking ISO6400 down to ISO400 is a difference of 4 stops, which means 2 secs becomes 32 secs. We could go lower, perhaps to ISO100, but consider whether the extra quality is worth waiting for.


Shutter speed
Test settings
f/4.0
2s
ISO
6400
Equivalent settings
f/16
ISO
400
--
Shutter speed
Exposure Value (EV)
Rounded Expo
8min 32s

04 Calculate the equivalent

Our initial aperture of f4 doesn't provide enough depth of field, so we reduce it to f16. Now 32 secs becomes 8 mins 32 secs (an exposure calculator like PhotoPills helps out). Now we set Bulb mode and use our remote release to lock open the shutter for the required time.


Long exposure NR
On
OK
Off
MENU

05 Turn on noise reduction

When Long Exposure Noise Reduction is enabled, your DSLR automatically takes a second shot that lasts exactly the same length as the first without opening the shutter. The camera then blends the two, although it means waiting for double the exposure length.

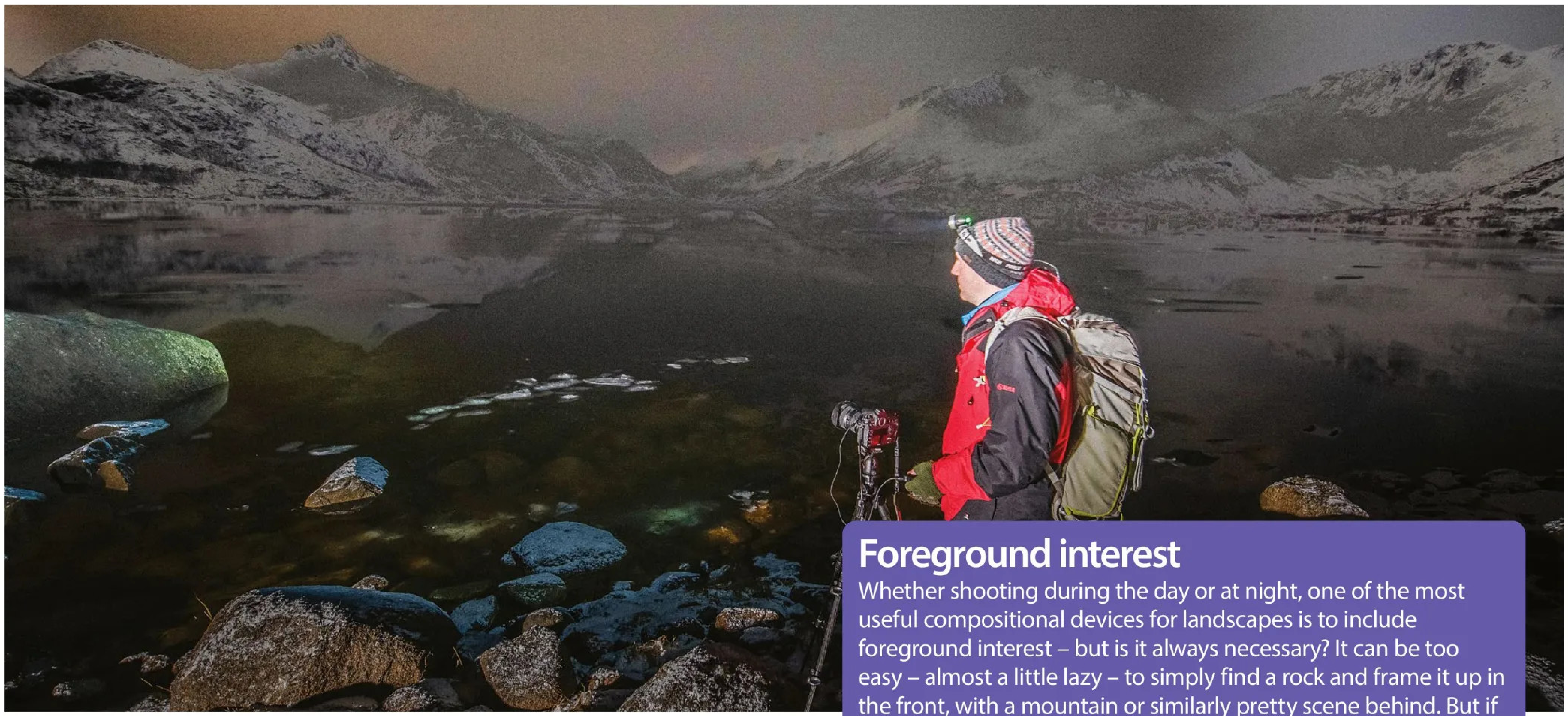
06 Shoot a dark frame

Like Long Exposure Noise Reduction, but instead you shoot a dark frame manually with the lens cap on, using the same settings as your main shot. Use Photoshop to blend the two: copy and paste in the dark frame then set the layer blending mode to Difference.

Quick tip

Live View can see better in the dark than you can. Boosting the ISO and opening up the aperture to its widest is especially helpful when composing your image when faced with really dark scenes.

Night shooting tips Long exposure checklist



Foreground interest

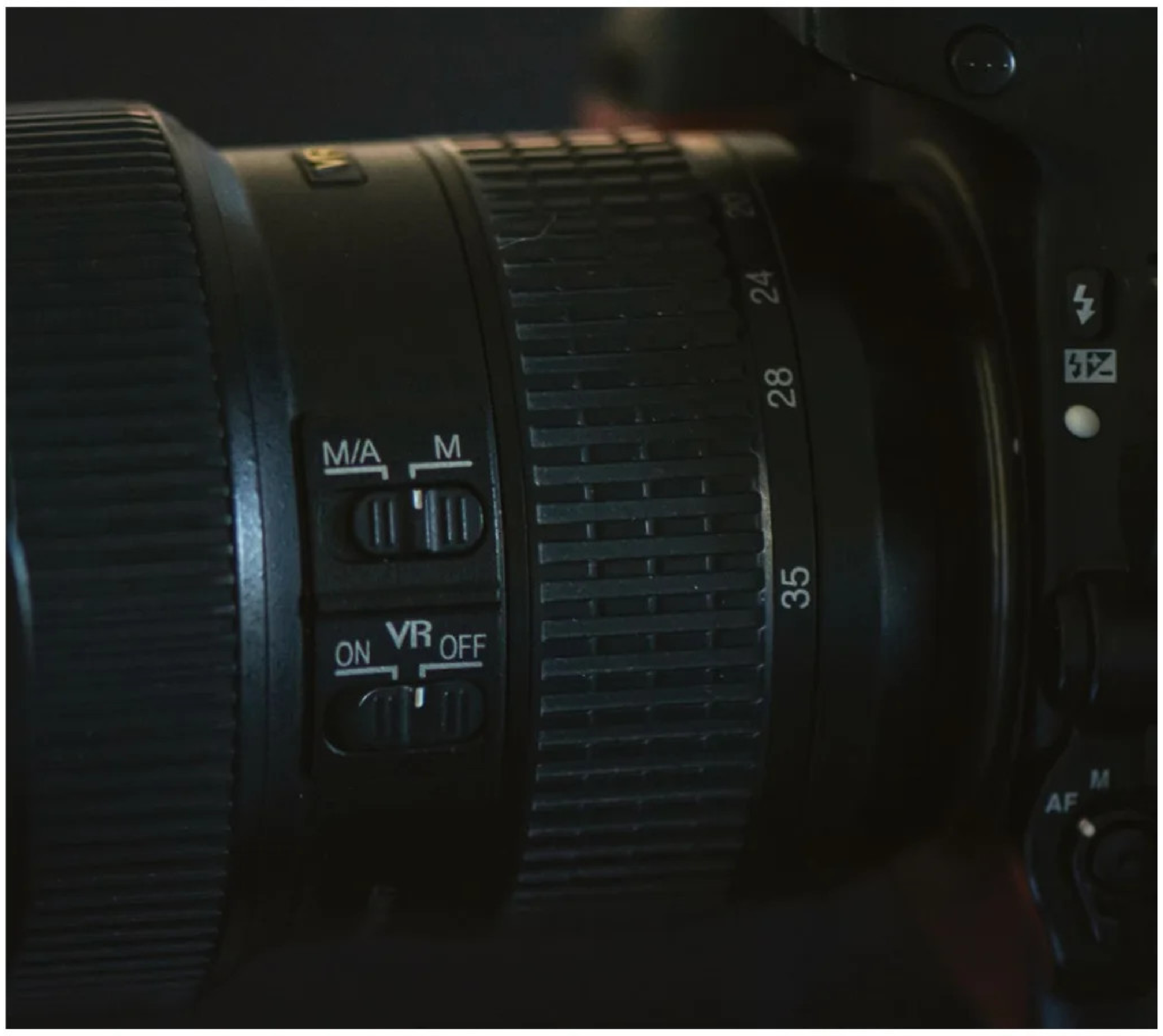
Whether shooting during the day or at night, one of the most useful compositional devices for landscapes is to include foreground interest – but is it always necessary? It can be too easy – almost a little lazy – to simply find a rock and frame it up in the front, with a mountain or similarly pretty scene behind. But if that's the default, then our landscapes can all end up looking very similar. More importantly, it might actually hinder us from finding a stronger composition. There's no right or wrong here, but rather a challenge that goes to the heart of all photography – to find something visually interesting or unusual.

01 Compose with Live View

At night your sensor can pick up more light than the naked eye, so consider composing the frame with Live View. With your camera on a tripod, using Live View gives you the freedom to perfect your composition, and blocks the viewfinder, so you can skip tip 2.

02 Turn off stabilization

When your camera is on a tripod there's no need to use lens stabilization. So if your lens has this feature, turn it off. Not only does it drain the battery, it may also result in a lower quality image as stabilization mechanism could actually cause vibration during the long exposure.



03 Use manual focus

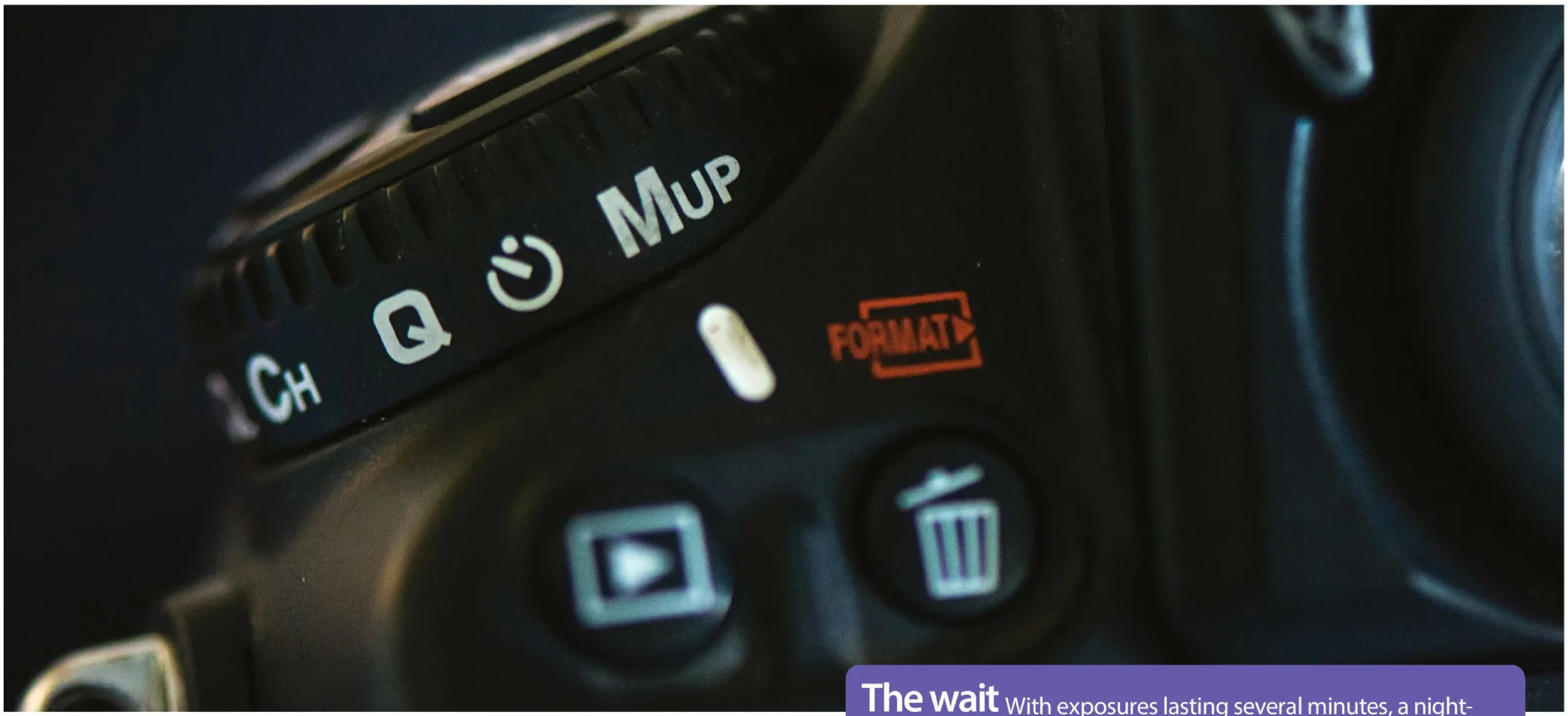
Whether you're shooting at night or using a heavy ND filter during daylight, your DSLR will struggle to lock on when focusing. Better to switch to manual focus, then engage Live View, zoom in to the detail you want sharp and adjust the focus ring. This prevents focus hunting.

04 Use manual focus

Whether you're shooting at night or using a heavy ND filter during daylight, your DSLR will struggle to lock on when focusing. Better to switch to manual focus, then engage Live View, zoom in to the detail you want sharp and adjust the focus ring. This prevents focus hunting.

05 Minimise shake

The act of pressing the shutter button can disturb the camera and cause shake, so either use a remote release or alternatively your DSLR's self timer so you can fire the shutter without touching the camera. Of course, when in Bulb mode, a remote release is essential.



06 Mirror lockup

Mirror slap can cause camera shake, so engage your DSLR's mirror lockup. The mirror really only affects exposures from 1/20 sec to 2 seconds – for anything longer than this, the shake doesn't have as much of an effect as the camera is drawing in light for much longer.

The wait With exposures lasting several minutes, a night-time shoot means a lot of waiting around. So come prepared with warm clothes, perhaps a camping chair and a flask of something hot. If you have a second camera, bring it along too – you can set up another shot while you're waiting.

Shoot paint drops

Pouring paint into water, we show you how to capture swirling patterns as it unfolds

Think about those images we've seen from the Hubble Space Telescope where nebulae, distant stellar nurseries, form new stars in the universe. Well, those same laws of motion can be seen here on earth. Sit down for a cup of tea and you'll surely have noticed the wonderful swirling patterns created underneath the surface as the milk is poured in. In fact, what if our cup of tea was made of glass? We could watch it unfurl in the water in real time. Well, by turning that glass into a glass fish tank and changing the tea to paint, we suddenly have a much more photographable subject.

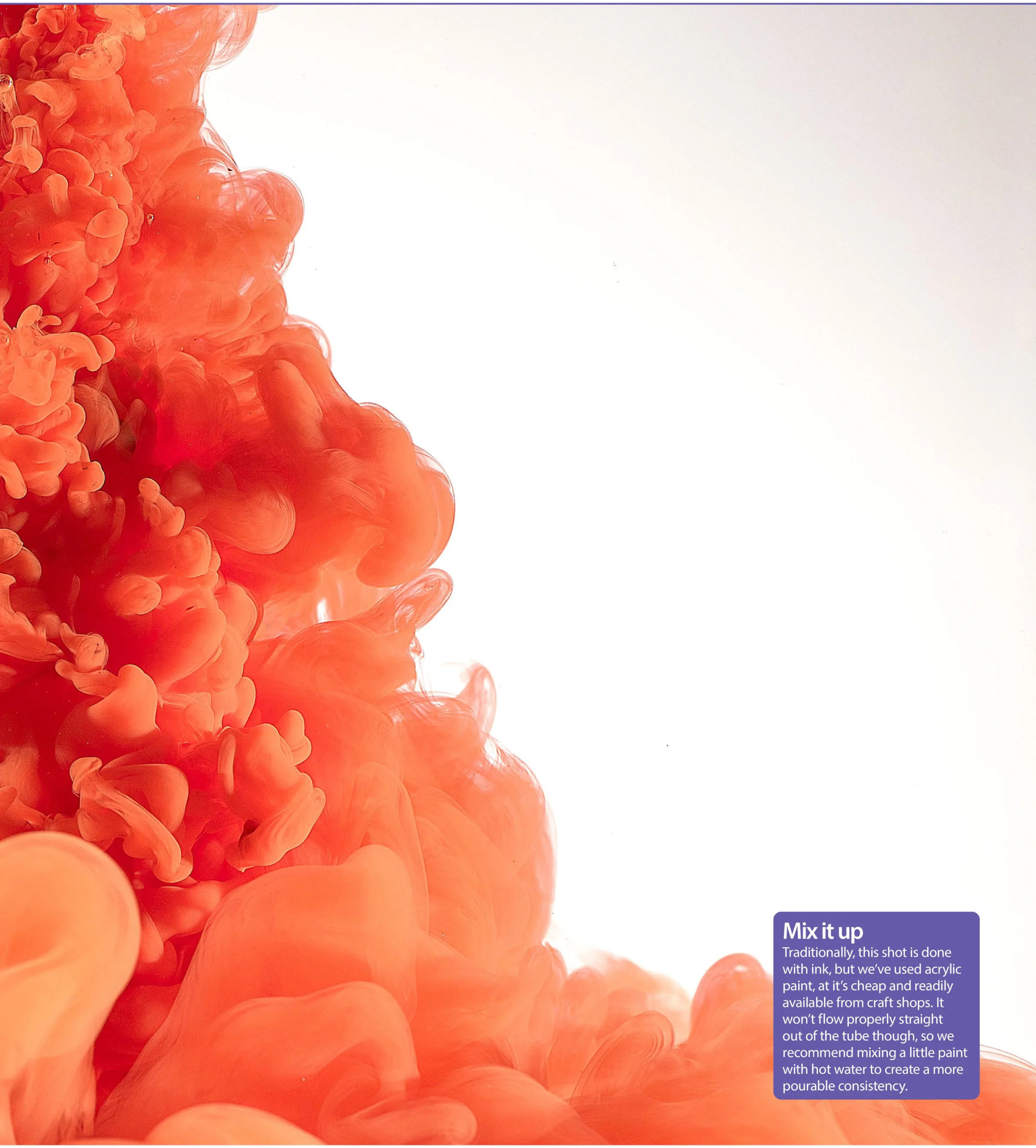
Once lit, we can freeze this flow of paint mid-motion with our Nikon camera and capture a slice of time. All it takes is a little patience and a lot of water. In fact, we only need a few basic things to get started.

We have a fish tank – this is a glass fish tank. Plastic is fine, but it'll distort the light more than a pane of glass and so degrade the image quality. Don't worry if plastic is all you have though, because it'll still work fine. We're using acrylic paint. Because it's oil-based it won't instantly mix with the water. Instead, it'll hold together as it drifts through the tank creating more sculpture-like shapes.

In terms of camera gear we have a couple of flashguns. We're using Nikon SB-5000s. If you only have one, that's fine. But you'll get better results with two. We've plugged a wireless trigger into each flashgun, and a transmitter into the hotshoe of our Nikon D750. Use hotshoe footplates to stand the flashguns on the surface you're shooting on (or place them on light stands).

We're using a Nikon 105mm macro lens to get in close to the action and fill the frame, but you could just as easily use any telephoto lens. However, you'd have to position the camera further away from the aquarium because the minimum focusing distance of a non-macro telephoto lens will be further away.

This project is all about the prep as it takes about 20 minutes to clean and refill the tank before you're ready to shoot again. But it takes just a few seconds to nail the shot.

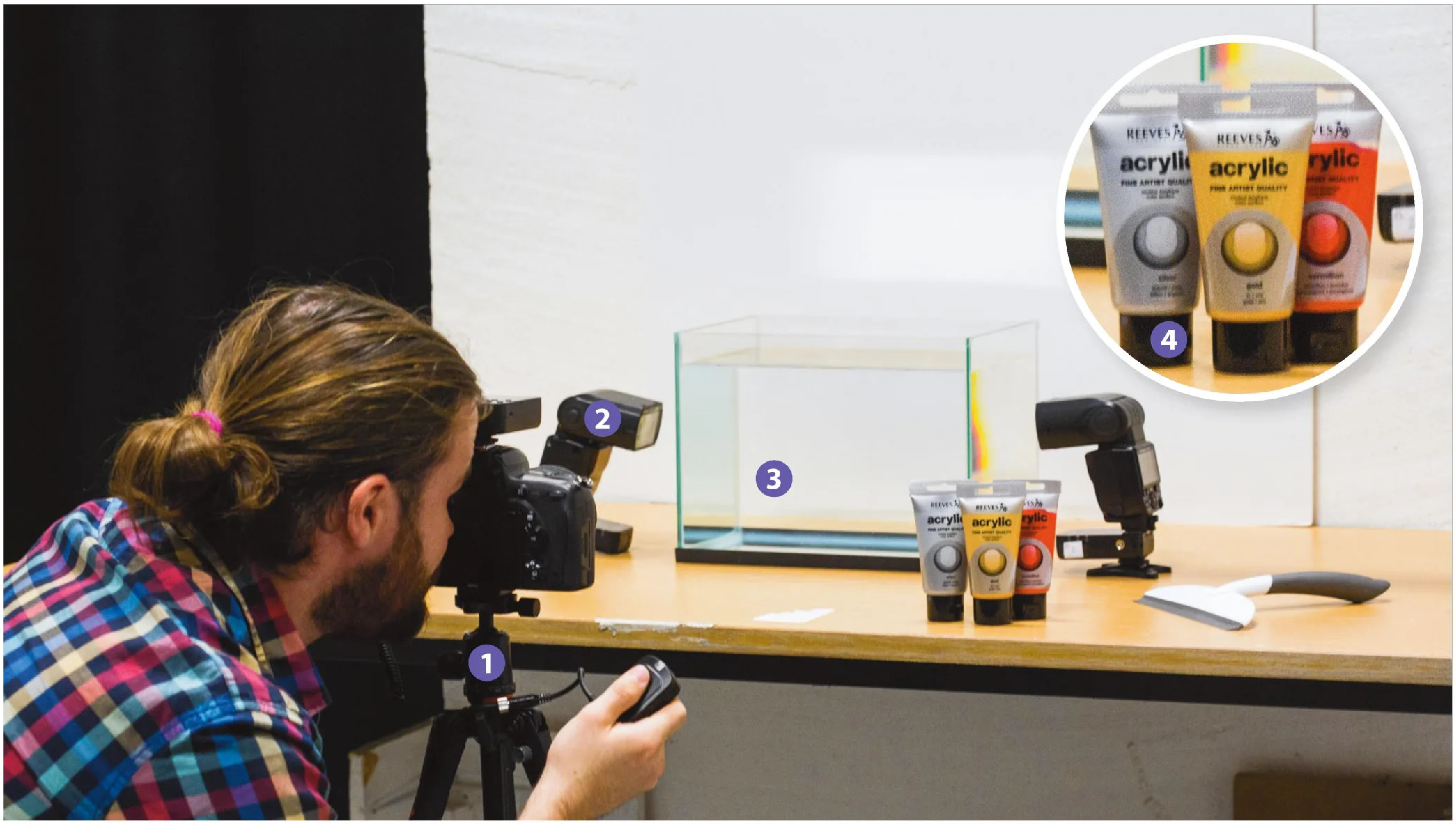


Mix it up

Traditionally, this shot is done with ink, but we've used acrylic paint, at it's cheap and readily available from craft shops. It won't flow properly straight out of the tube though, so we recommend mixing a little paint with hot water to create a more pourable consistency.

The next step

On location The basic setup



1 Tripod
Aligned with the centre of the tank, the tripod keeps the Nikon still and secure, ready for a perfect crop with each image.

2 Flashguns
We used two Nikon SB-5000 Speedlights on either side of the tank to light up the paint as it passed through the water.

3 Aquarium
Our glass fish aquarium was on a stable surface with plenty of space around it, marked with Blu-tack for exact positioning.

4 Paint
We used acrylic paint in a variety of colours. The richer the colours, the more striking the end result will be.

Get the light right Twin Speedlight setup

01 Flash types

We have two identical flashguns (Nikon SB-5000) so that the colour balance and power output will be identical, as we'll be lighting the tank symmetrically. Having different levels of power, or a colour tint to one side, will detract from the final results.

YONGNUO
YN622N

02 Wireless triggers

We're using the Yongnuo YN622N wireless flash triggers, that operate via radio frequency, but you can use any type you fancy. Infrared optical triggers will work equally well because the two flash units are set close together on the table top, in line of sight of the camera.

Quick tip
Fresh batteries will minimise the recycle times of the flashguns as much as possible. Not only that but you'll be able to shoot for longer before having to change batteries.

Step by step Time to make a splash

Aquarium Starter Kit 15l
acrylic
acrylic
acrylic

01 Table and backdrop

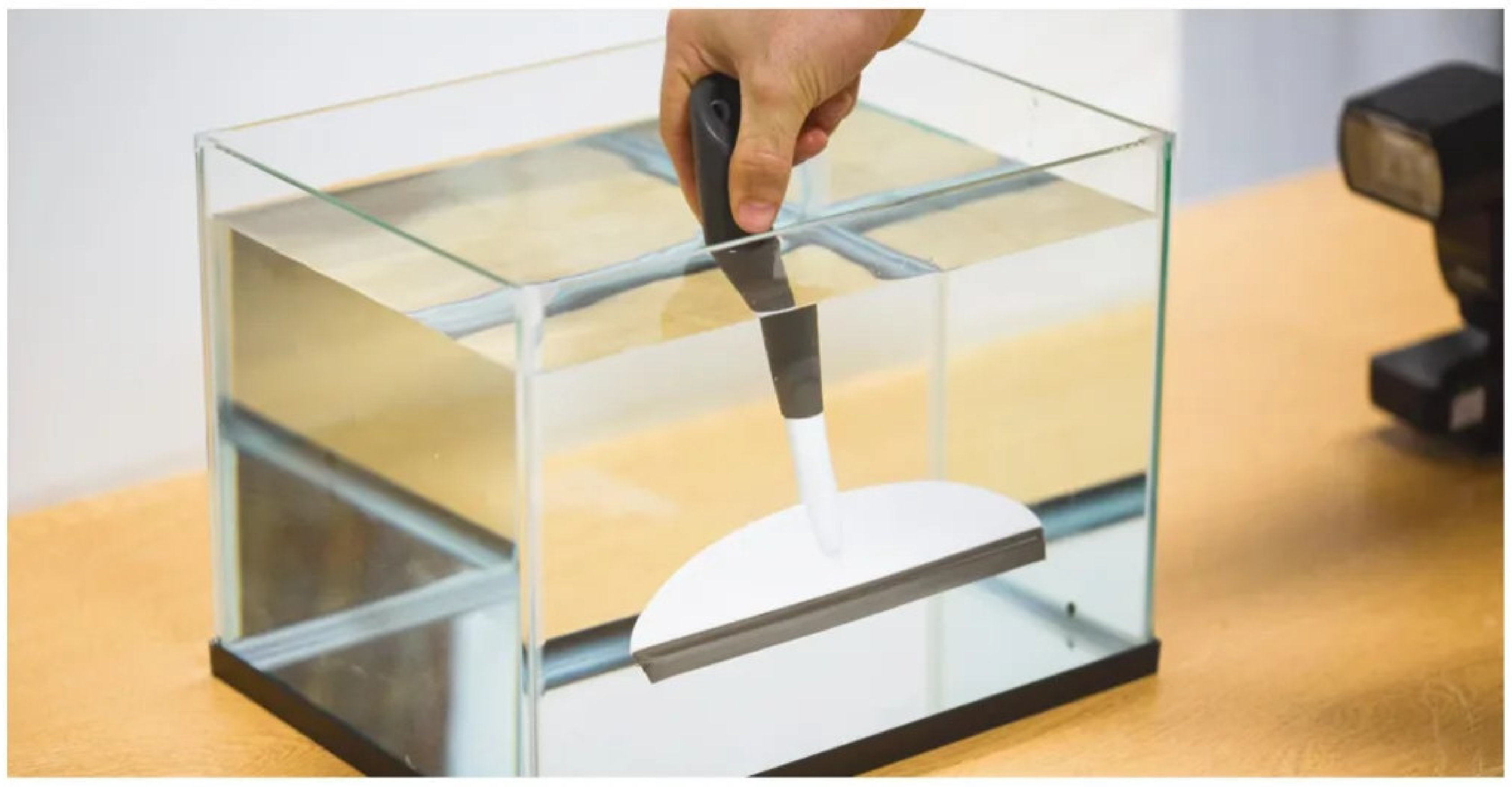
You need a sturdy table/surface that isn't going to tip over. Plus, a white paper background. This could be a photographic paper roll background, or it could just be some A3 paper taped to your wall. Although the price difference is obvious, both will produce the same result.

Quick tip

As well as knocking out the bubbles from inside the tank, you may find water splashes on the outside, so wipe down the glass with kitchen towel or lint-free tissue.

02 Fill tank

Fill the aquarium with water and place it on the table. You may find a hose or a jug useful for this bit, but you'll have to empty it between each paint pouring and it's heavy when full up. Care must be taken to avoid injury. It might help to set up near a sink, or a bathtub.



03 Squeegee

Knock out air bubbles that accumulate on the glass with a squeegee or even a wooden spoon. The flash light will show up all the bubbles if there are any left because it's side-lit, and side light enhances texture by accentuating shadows. The presence of bubbles will spoil your shot.

04 Centre up

Put your Nikon on a tripod and centre it with the aquarium. Get behind your DSLR and check that the camera is slap bang in the middle. No special lens is required, but try your best to fill the frame with the entire tank. We used a Nikon 105mm macro lens.

05 Pre-focus

Take the squeegee or wooden spoon and hold it in the middle of the tank (a friend may come in handy at this point). Then pre-focus on it and switch to manual focus to lock off the focus point. Now your focus will be maintained at this point throughout the shoot.

SPEEDLIGHT SB-5000
1/16

Quick tip

Want to make your shot look even stranger? Flip the image upside down in software, the plumes can take on all sorts of weird and wonderful shapes.

06 Flashguns

Turn on two flashguns and attach wireless triggers to each of them. Then put a hotshoe footplate on both of them and place them on either side of the fish tank. To start, turn them to 1/16 power to speed up the power recycle times of the flashes.

Step by step Nail the camera prep before shooting

CL CH Q QC MUP

01 Shoot continuously

Engage continuous drive on your Nikon to allow multiple photos to be taken while the shutter release button is depressed. This means you get a few bites of the cherry before the water becomes an impenetrable, murky mess, and you need to pour it out and start over again.

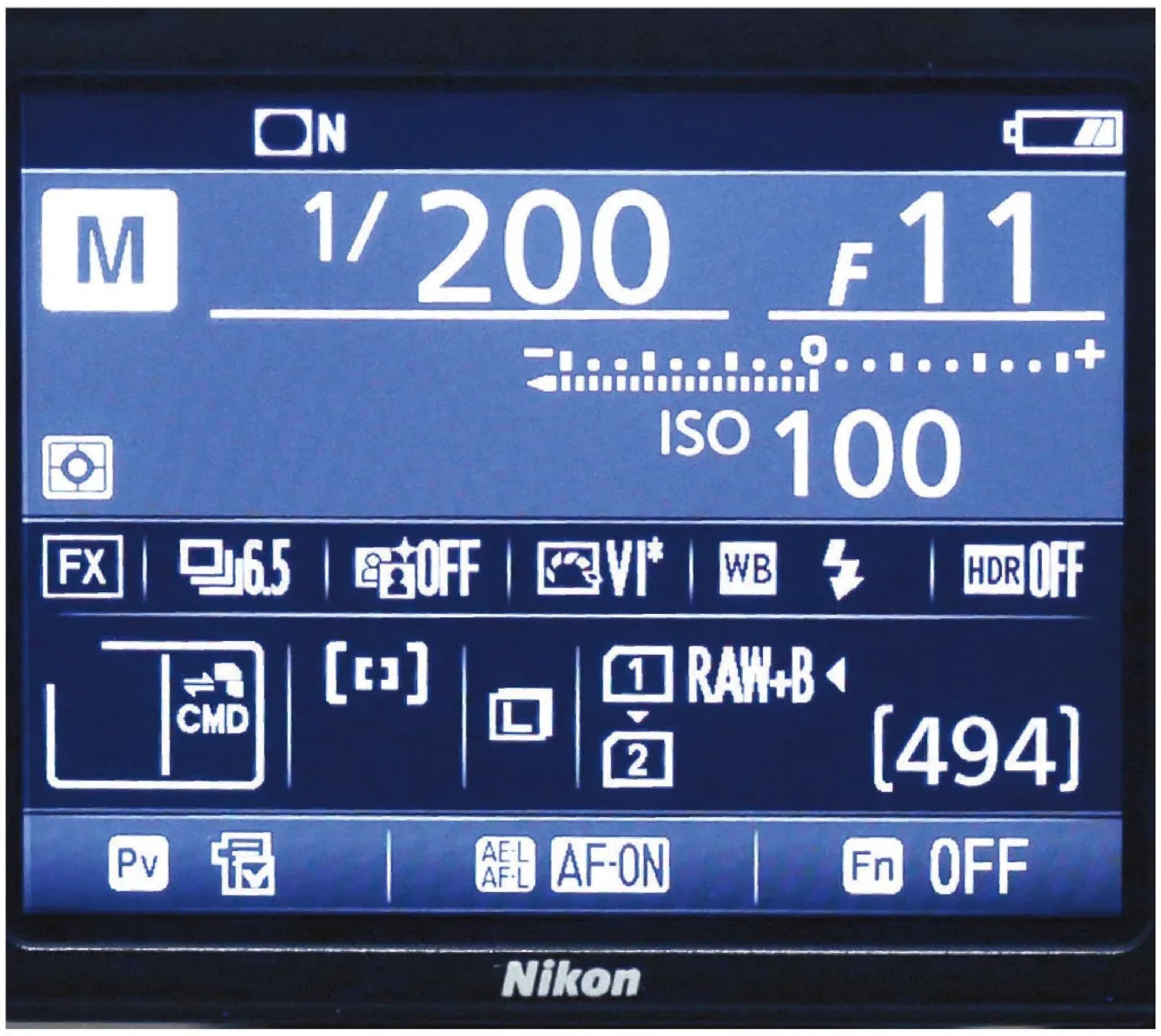
Solo flash works fine

Don't panic if you only have one flash, because the results can still be just as beautiful. One flash, brought closer to the front of the tank, means deeper, richer shadows in the paint as it unfurls through the water.

M
1/ 25
FX
6.5
OFF

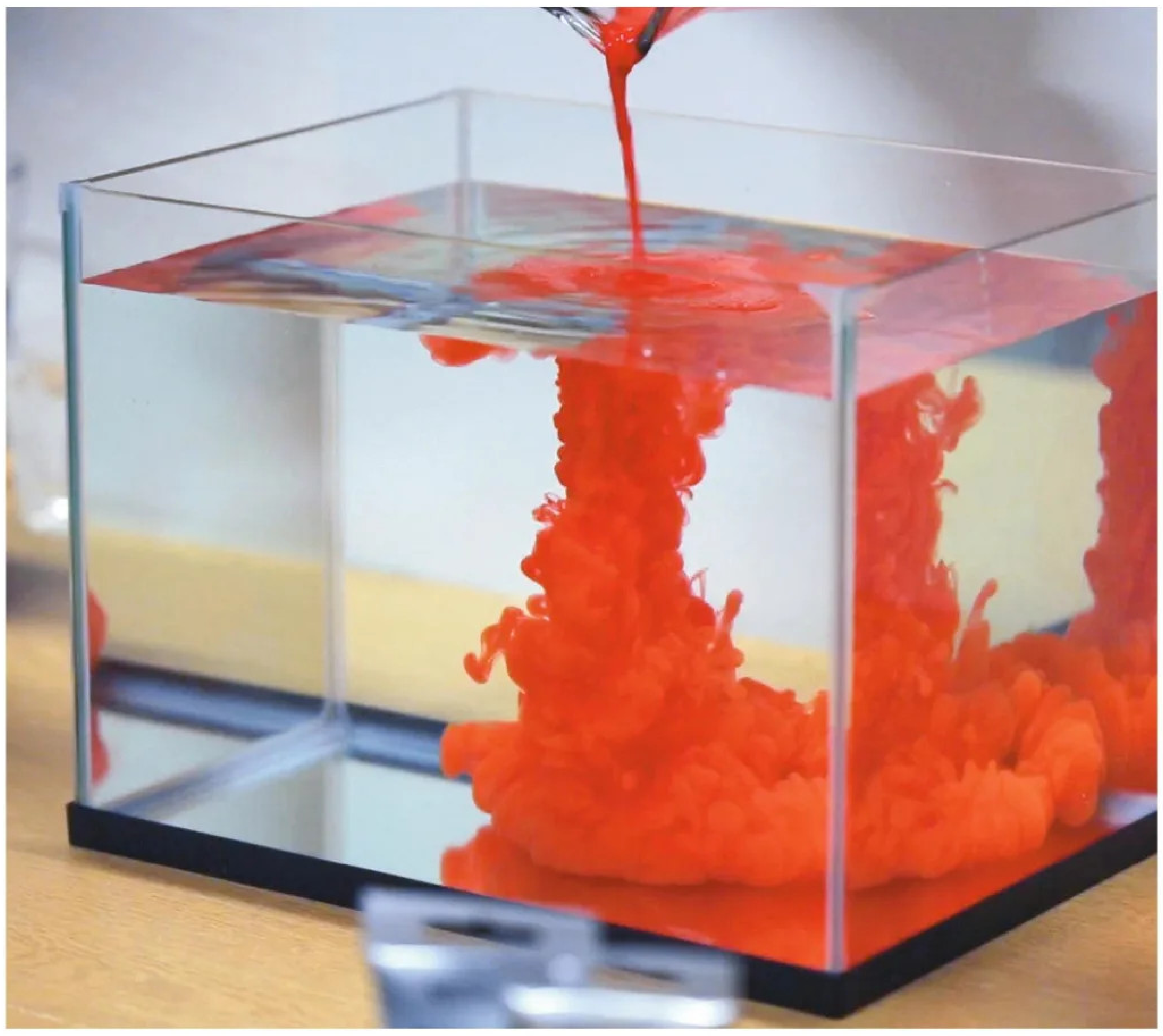
02 Shoot manually

In Manual mode, we want to trade off the depth of field to make the whole ink flow sharp against the recycle times of the flash to keep shooting well-lit photos in continuous drive. So we used a narrow aperture setting of f11 to provide sufficient depth of field.



03 How fast

We set 1/200 sec shutter speed as this is the maximum flash sync speed of most Nikon DSLRs. If the shutter opens faster than 1/200 sec, then the moving shutter blind will obscure part of the image, (indicated by a black side of the frame). We also set ISO100.

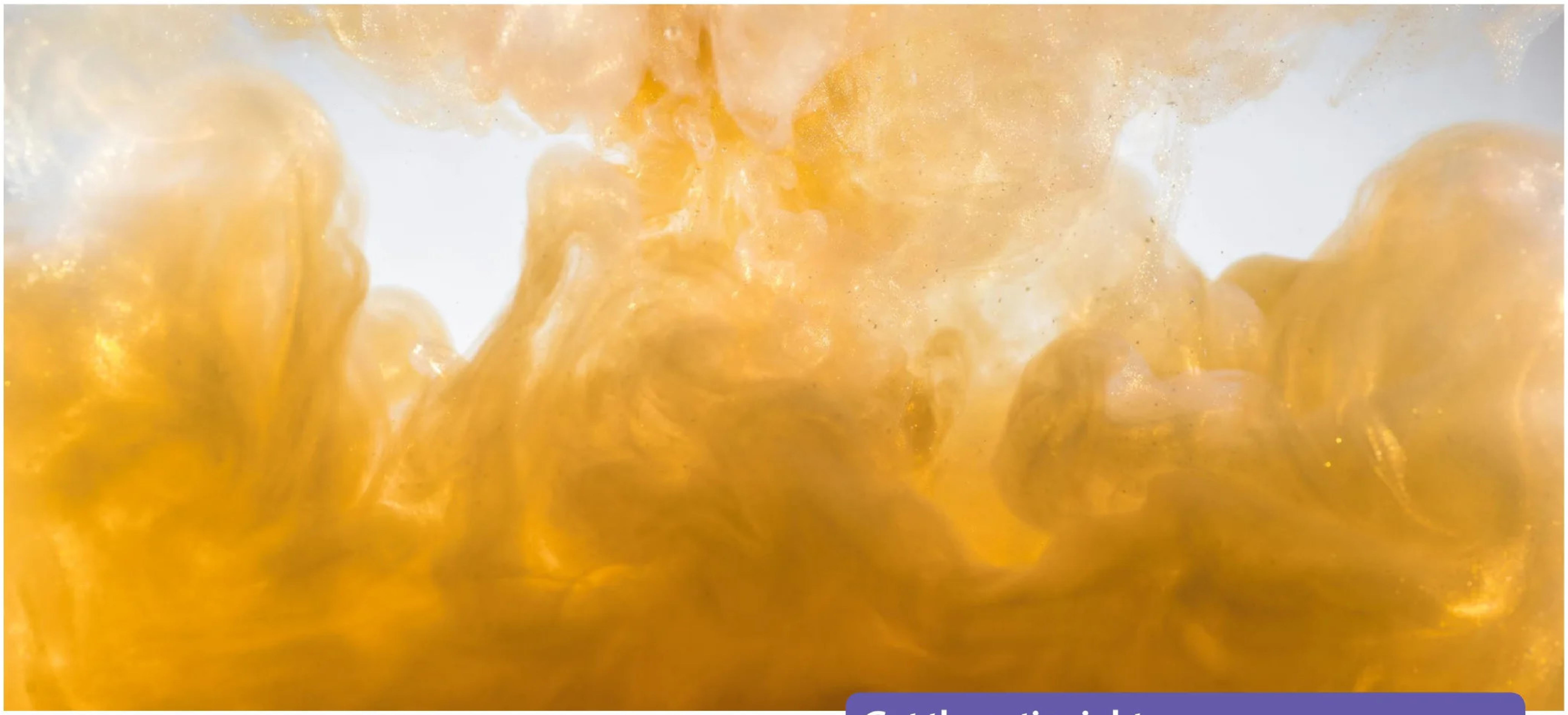


04 Start to pour

When pouring the paint into the water, pour very close to the surface. When dropped from a height, the paint falls faster and impacts the water harder, creating an air bubble as it sinks. Also, the paint unfolds more photogenically when poured just above the surface.

05 Taking the shots

You could use a remote shutter release if doing this on your own and shoot/pour the paint simultaneously. But it's easier getting a friend to pour the paint while you take the photos because the pourer can concentrate on getting the technique just right.



06 Fill 'er up

Once you've got the initial few photos of the paint pouring in, you sometimes get another chance for a second pour. But more often than not, the initial paint pour will have made the water too murky for any real shooting, so it's time to rinse and repeat.

Get the ratio right

When mixing your acrylic paint with hot water, it's the consistency that makes it look good. Use one part paint to five parts water and mix it with a spoon. It won't mix perfectly, but it'll be good enough to photograph.another shot while you're waiting.

The next step

Urban architecture

Looking for a more expressive way to shoot modern buildings? We show you how to slow down time by using ND filters

There are many different ways to photograph urban architecture. While some commercial photographers want everything crisp, clean and bright, a fine-art approach might transform the architecture into fluid forms and shapes that are pleasing to the eye. Fine-art urban architecture is simple and pared down.

In this project we'll be showing you how to capture simple yet expressive mono scenes. We'll be using neutral density filters to help us reach those extended long exposures in daylight and will render the cloud movement silky smooth behind our subjects. These shots work best with the camera pointed directly upwards to make the buildings appear more looming and impressive, and a wide-angle lens perspective accentuates the shapes of the buildings at hand. Modern structures suit this technique thanks to their clean lines, but you'll still need to find the best angle.

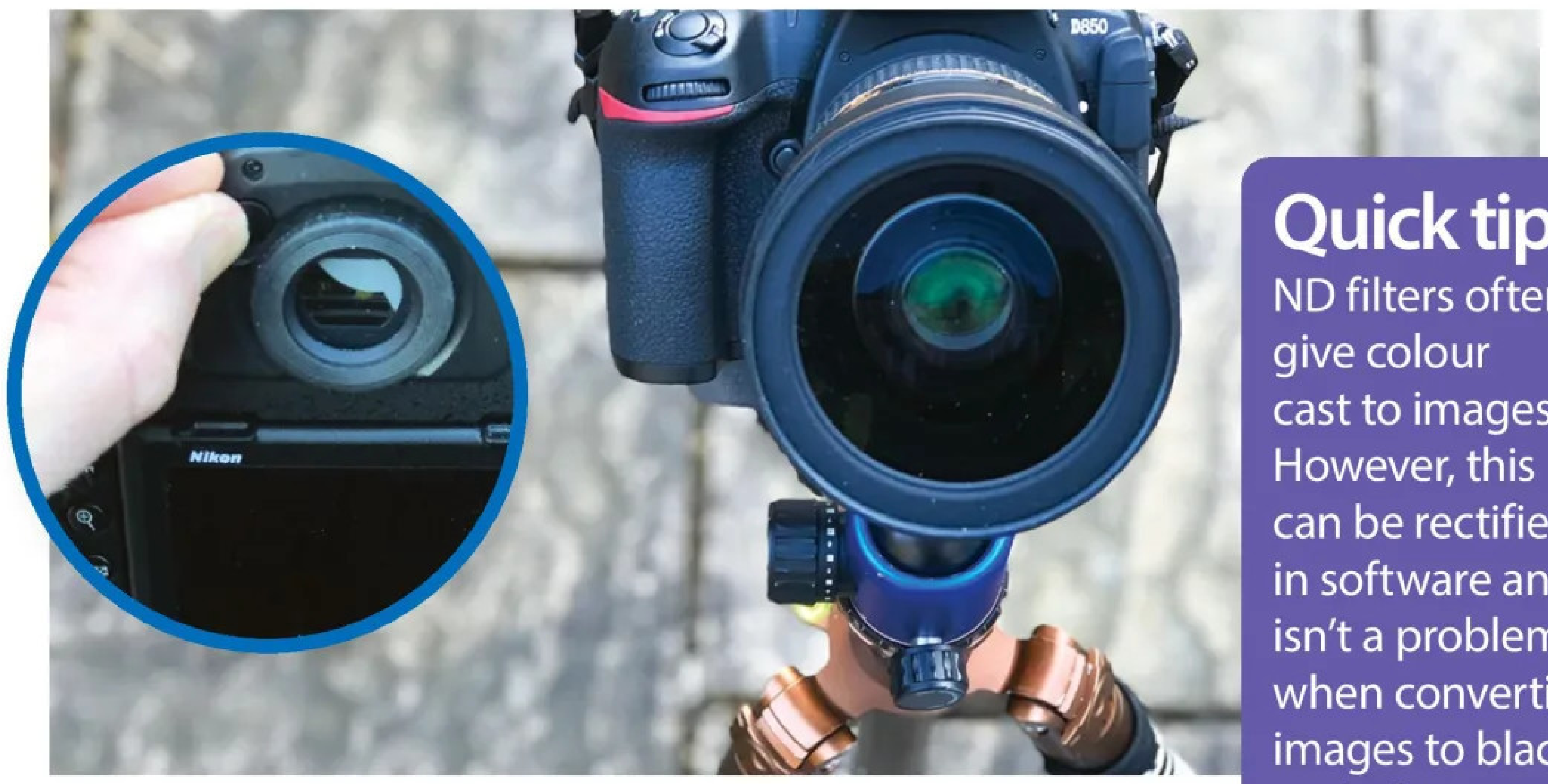
After the shoot, you can use our editing tips to convert your images into mono masterpieces. Get ready to take some surrealist stunners…

The next step

Step by step Capturing the scene

01 Time it right

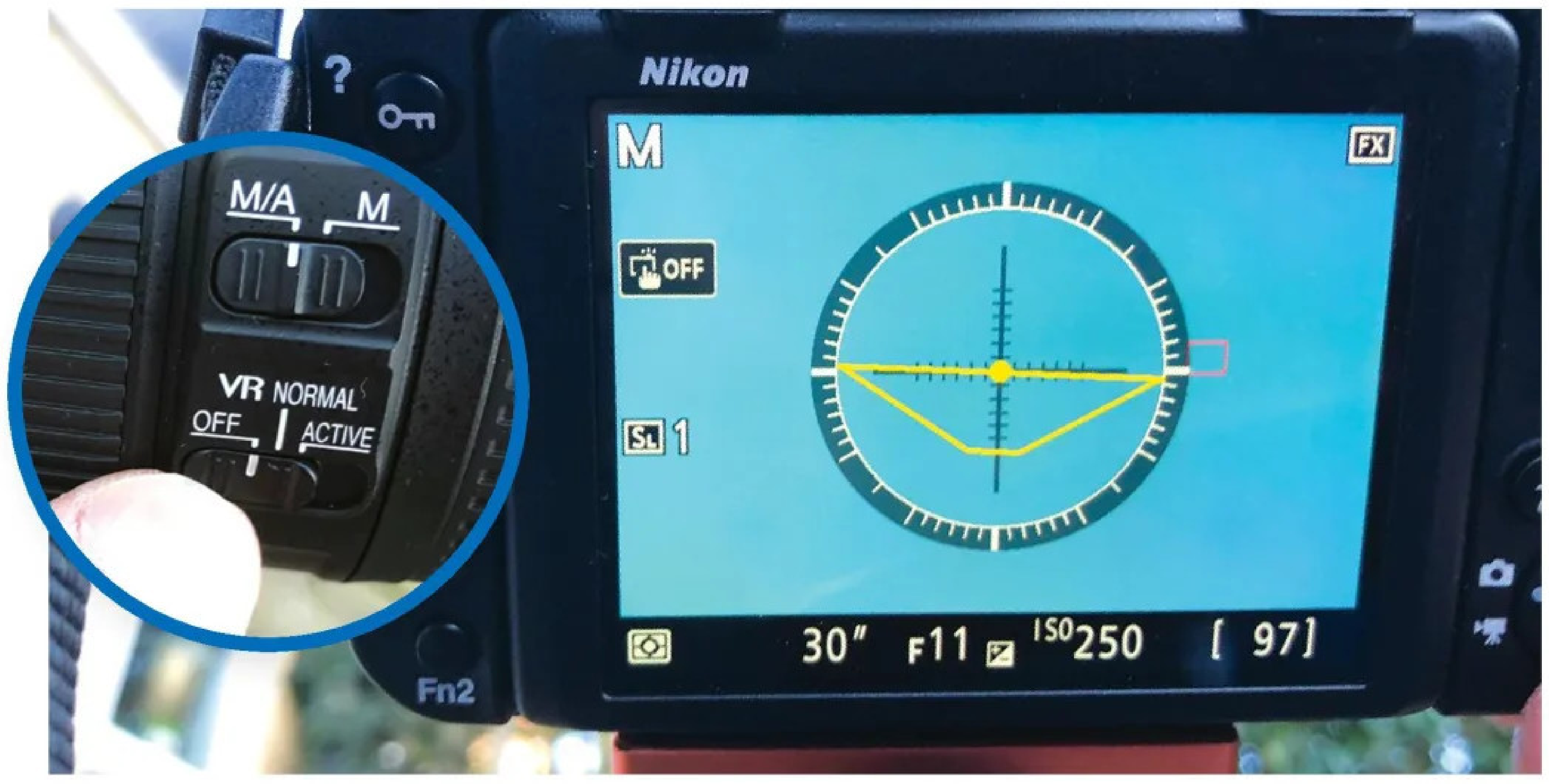
Check the weather before your shoot – you need cloud movement to create blur. Ideal conditions are light winds with around 60 per cent clear sky to 40 per cent cloud cover. Walk about your chosen location, and look for a subject and the best angle before setting up a tripod.



Quick tip
ND filters often give colour cast to images. However, this can be rectified in software and isn't a problem when converting images to black and white

02 Set a stable base

Mount your camera on a sturdy tripod, ensuring that the head is securely locked. Point your camera directly up towards your subject. Block the viewfinder with an eyepiece cover (or shut the eyepiece blind on some models) to prevent light leaking in during the exposure.

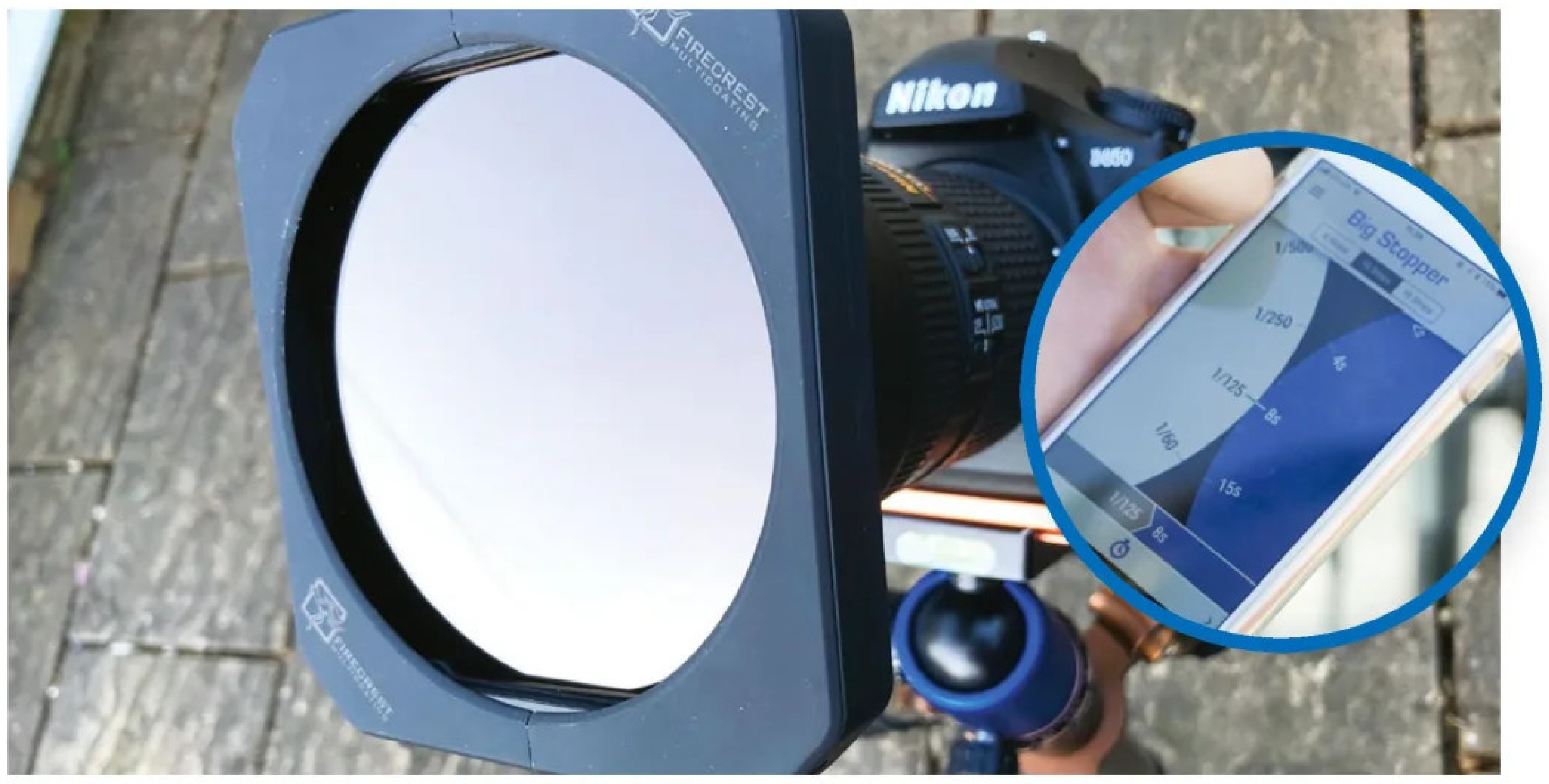


03 Frame and focus

Engage Live View mode and use it to compose the frame. A vertical or square composition that uses symmetry will keep things simple. Focus on the scene with autofocus, then switch to manual focus. Turn off image stabilization if your lens has that option.

04 Initial exposure

In Aperture priority mode, set an ISO of 100 and start with an aperture of around f11. Take a test shot and note down the shutter speed that your camera sets. The correct shutter speed to use once the ND filter is attached will be calculated from this value.



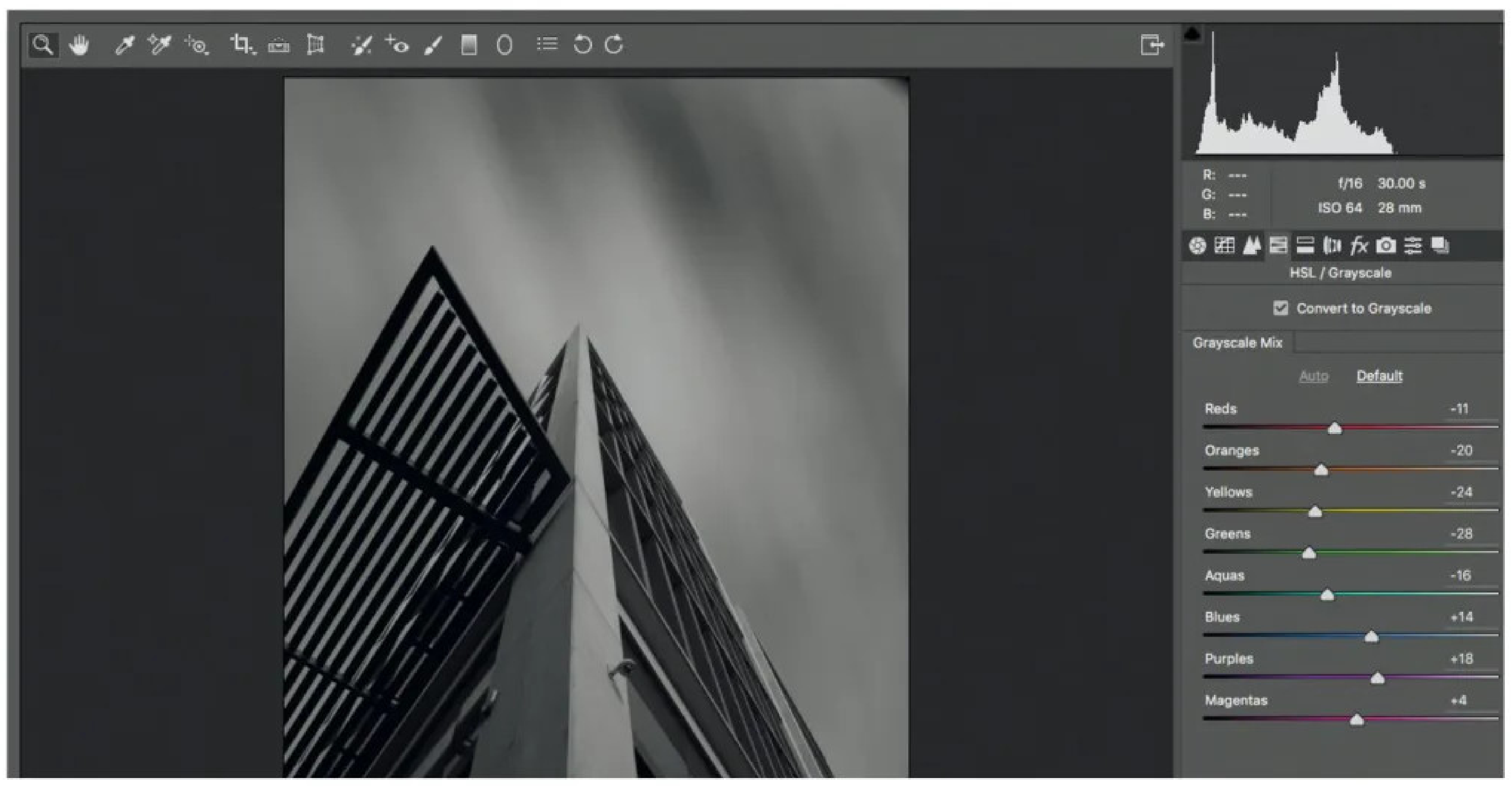
05 Stop the light

Carefully attach a strong ND filter to your lens (we used a 10-stop Formatt-Hitech filter). Next, calculate your new exposure time – there are plenty of smartphone apps available that will save you from the mental arithmetic. An exposure time of 1/125 sec would extend to 8 secs.

06 Fire away

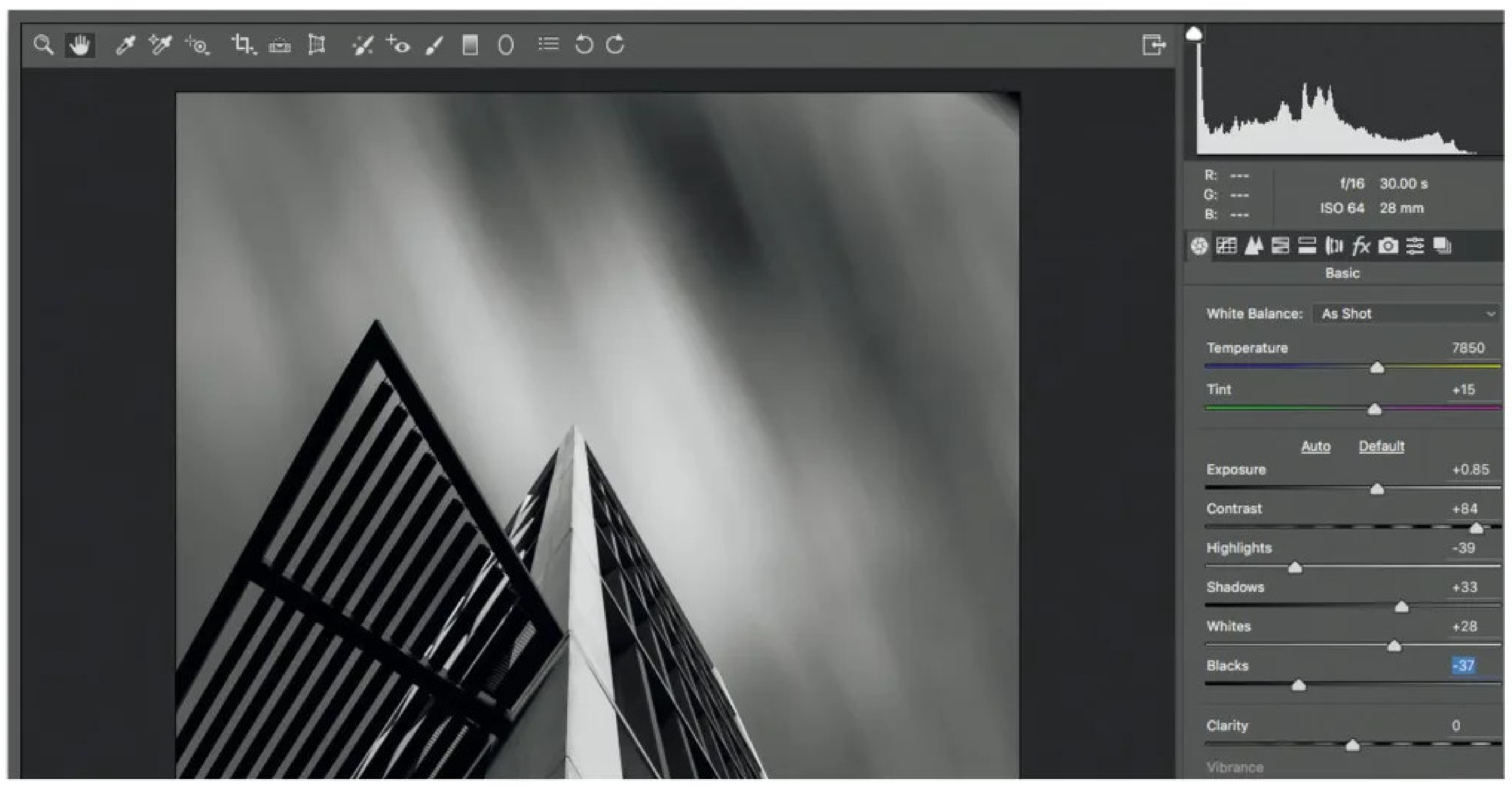
Switch to Bulb mode, and use a remote release to fire the shutter. Time the exposure, then release the shutter. Review your shots and tweak the exposure time accordingly. In stable light, you can often lengthen the recommended exposure times by about 25 per cent.

Editing steps Strip back the colour


f/16 30.00 s
ISO 64 28 mm
HSL / Grayscale
☑ Convert to Grayscale
Grayscale Mix
Reds -11
Oranges -20
Yellows -24
Greens -28
Aquas -16
Blues +14
Purples +18
Magentas +4

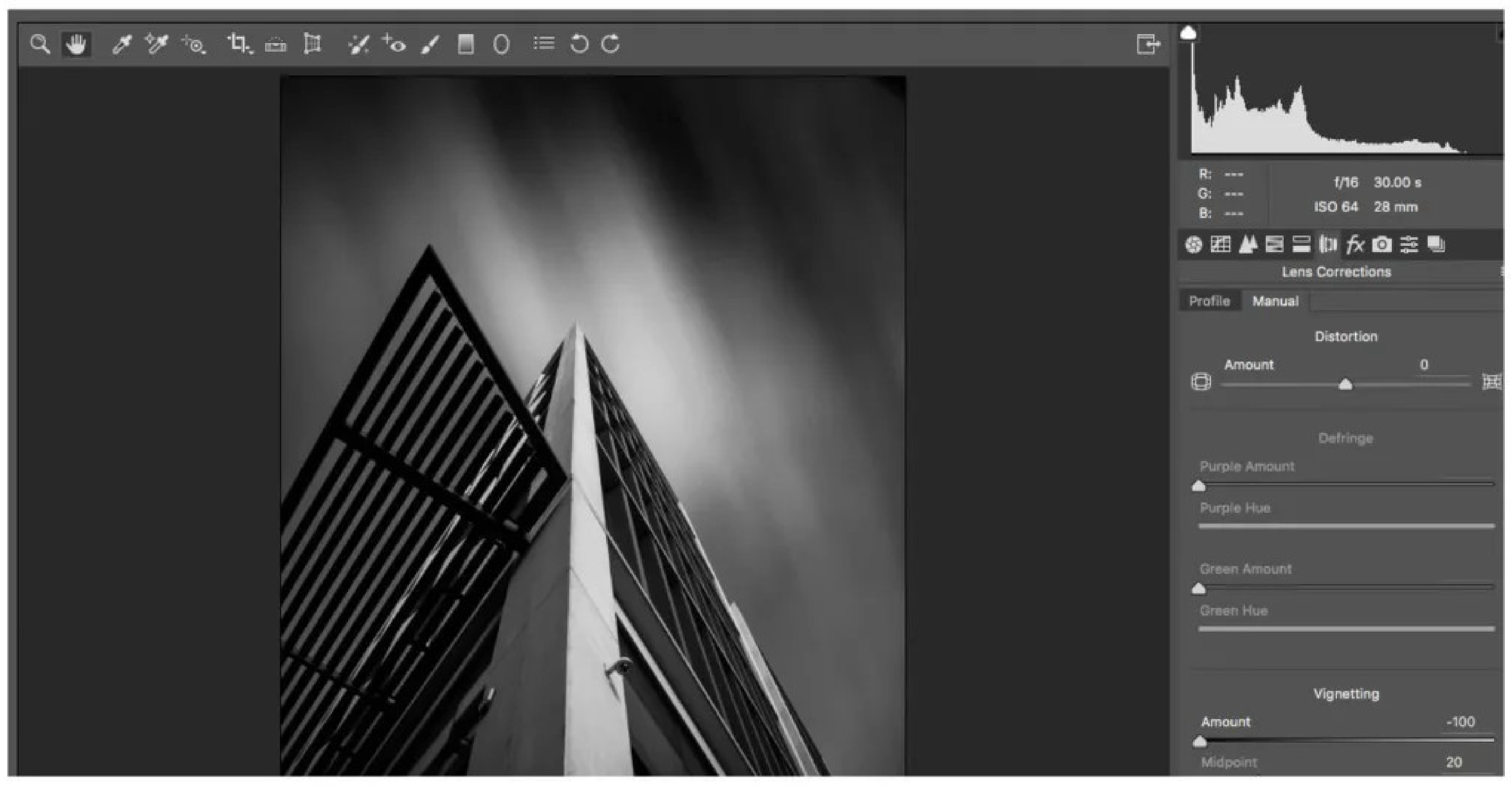
01 Go greyscale

Open your image in Camera Raw and head to the HSL/Grayscale slider. Tick 'Convert to Grayscale'. Next, tweak the Hue sliders and fine-tune the tones in the image. We wanted to darken the sky, so we took down the levels of Blues and Reds in our shot.


f/16 30.00 s
ISO 64 28 mm
Basic
White Balance: As Shot
Temperature 7850
Tint +15
Exposure +0.85
Contrast +84
Highlights -39
Shadows +33
Whites +28
Blacks -37
Clarity 0

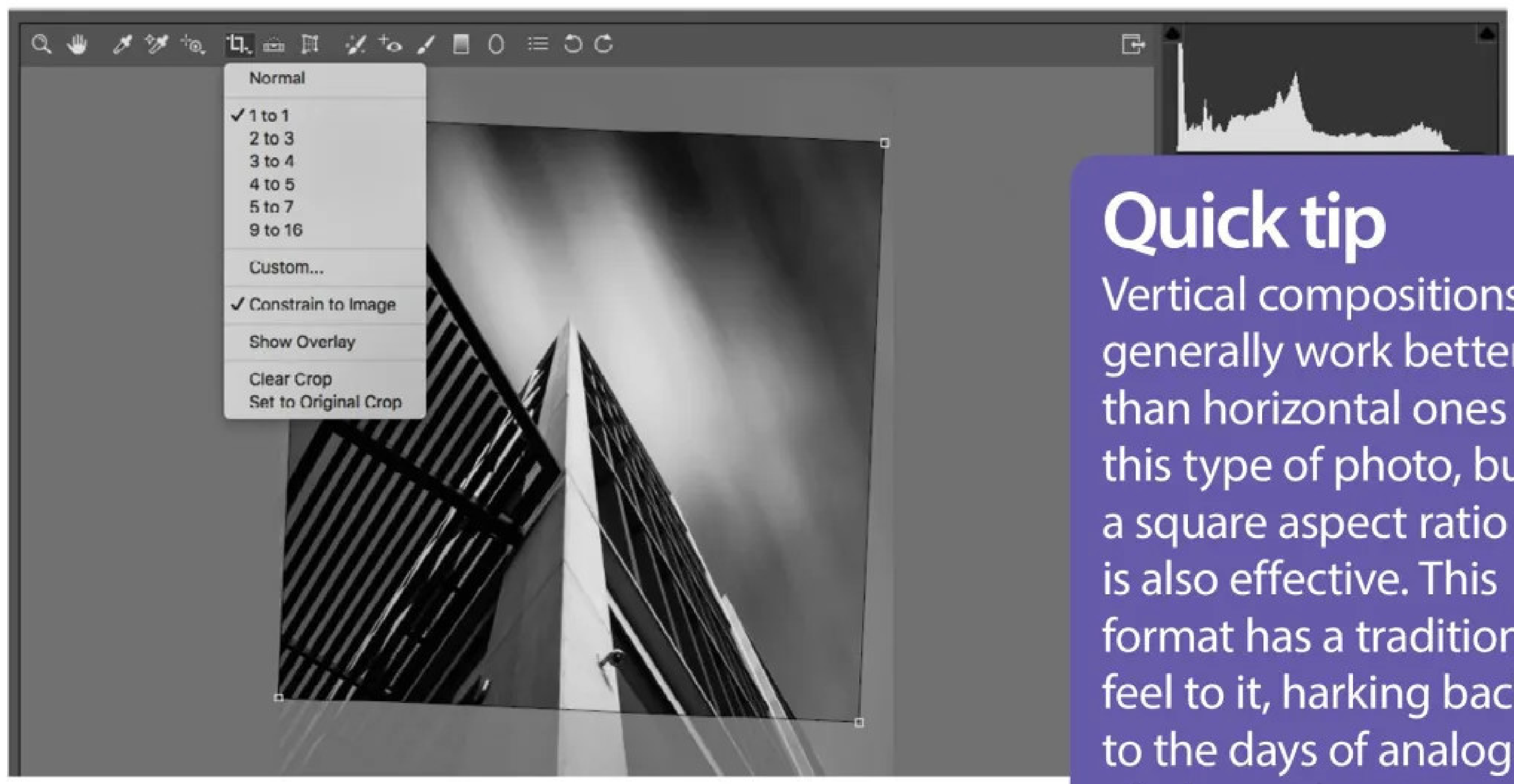
02 Tweak sliders

Now is the time to make more adjustments to the overall tones; for instance, we darkened Blacks, and boosted Contrast. At this point, you also might want to increase the contrast by heading to the Tone Curve slider and adding a slight S-curve.


f/16 30.00 s
ISO 64 28 mm
Lens Corrections
Manual
Distortion
Amount 0
Vignetting
Amount -100
Midpoint 20

03 Darken the corners

For a really dark and dramatic result, head to the Lens Correction panel, click the Manual tab and then add a strong Vignette. We took the amount to -100 and the Midpoint to 20, but each shot will vary. To selectively darken the sky, add a graduated filter.



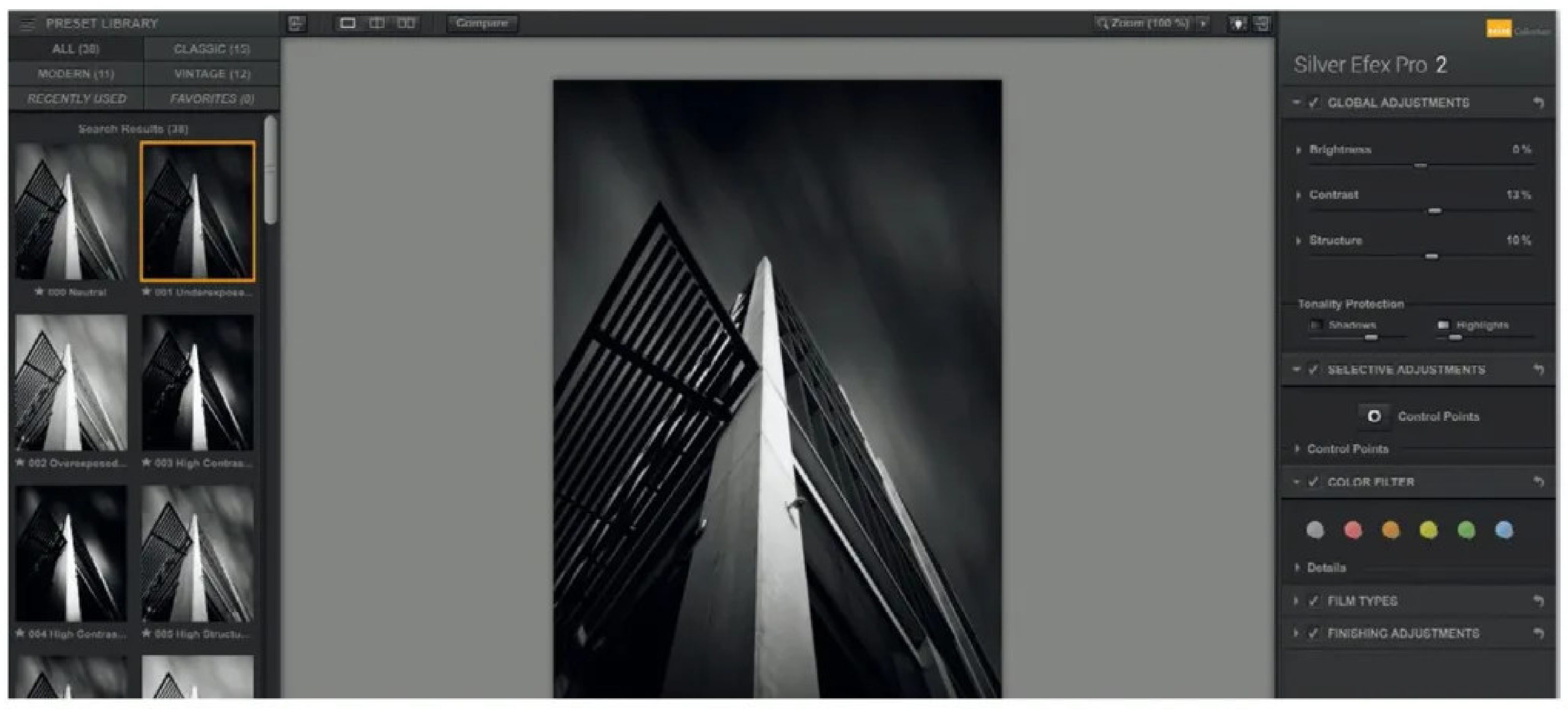
04 Crop it off

We experimented with different crops and compositions, using the Crop tool at the top of the Camera Raw window. Setting the aspect ratio to 1:1 will give you a square crop, which is effective for this genre of photography. Rotate the frame until you're happy.

Quick tip

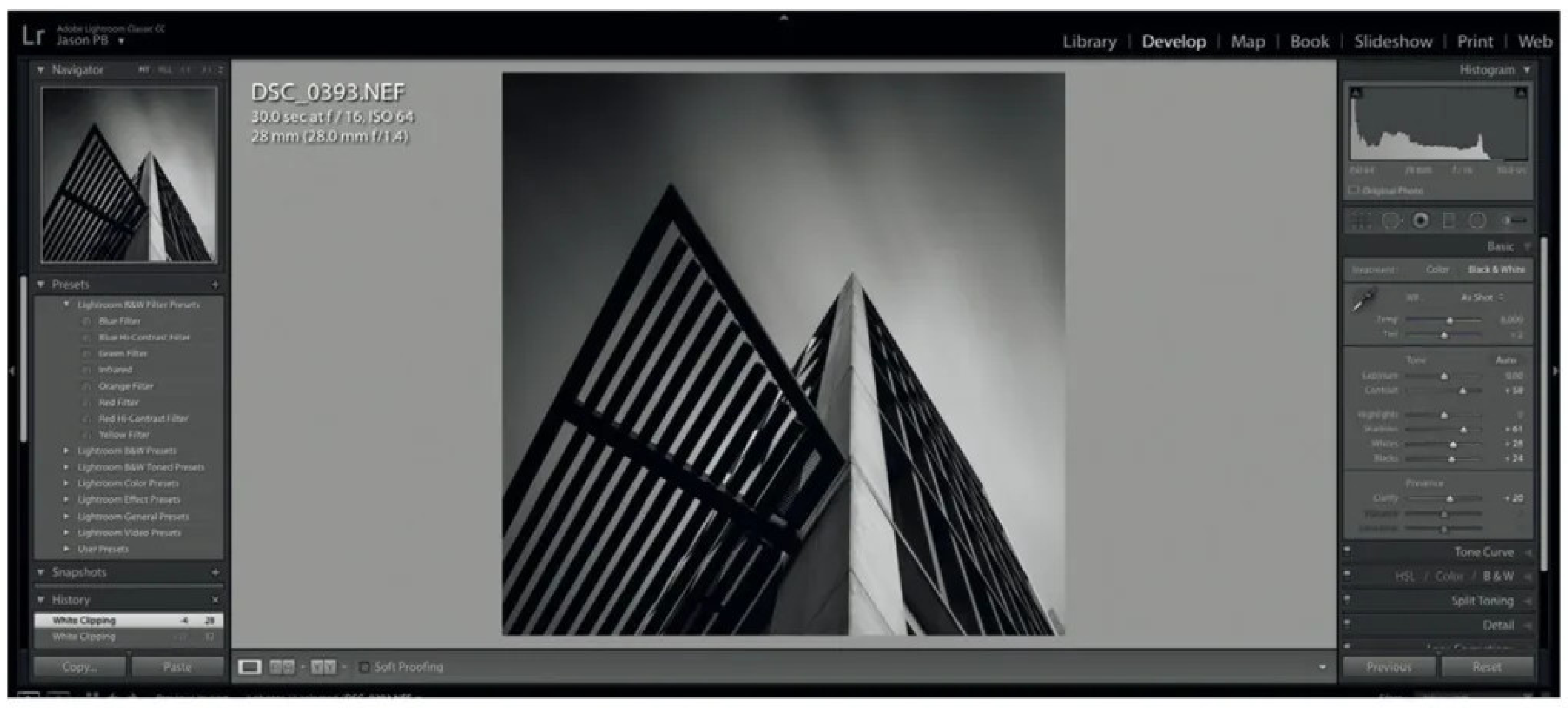
Vertical compositions generally work better than horizontal ones for this type of photo, but a square aspect ratio is also effective. This format has a traditional feel to it, harking back to the days of analogue photography.

Alternative Software For monochrome shots



Silver Efex Pro

This specialist black-and-white software has plenty of controls to fine-tune images, or you can choose to emulate around 20 popular film types with finishing adjustments and toners.



Lightroom

Lightroom offers an easy way to batch-process images. Open an image then head to the Develop tab. Set Treatment to Black & White in the Basic panel and take your edits from there.

Take a shot in the dark

The darkest hours can result in dazzling portraits if you know how to find the best light, or create your own

We often think of twilight as the most atmospheric part of the day for photography. However, after dark can also be a wonderful time to head out with the camera, especially in a busy urban setting. Coloured lighting from shop windows, passing traffic and neon signage can make for interesting and unique backdrops when shooting portraits.

So in this project we'll explore a few techniques for portraits after dark. We'll begin by looking at how to use available lights around us, then we'll go on to explain how to supplement the street lights with our own lighting. The biggest hurdle to overcome on a shoot like this is the dark. It means setting up our camera for low-light photography.For a static subject we could simply use a tripod and elongate our shutter speed.

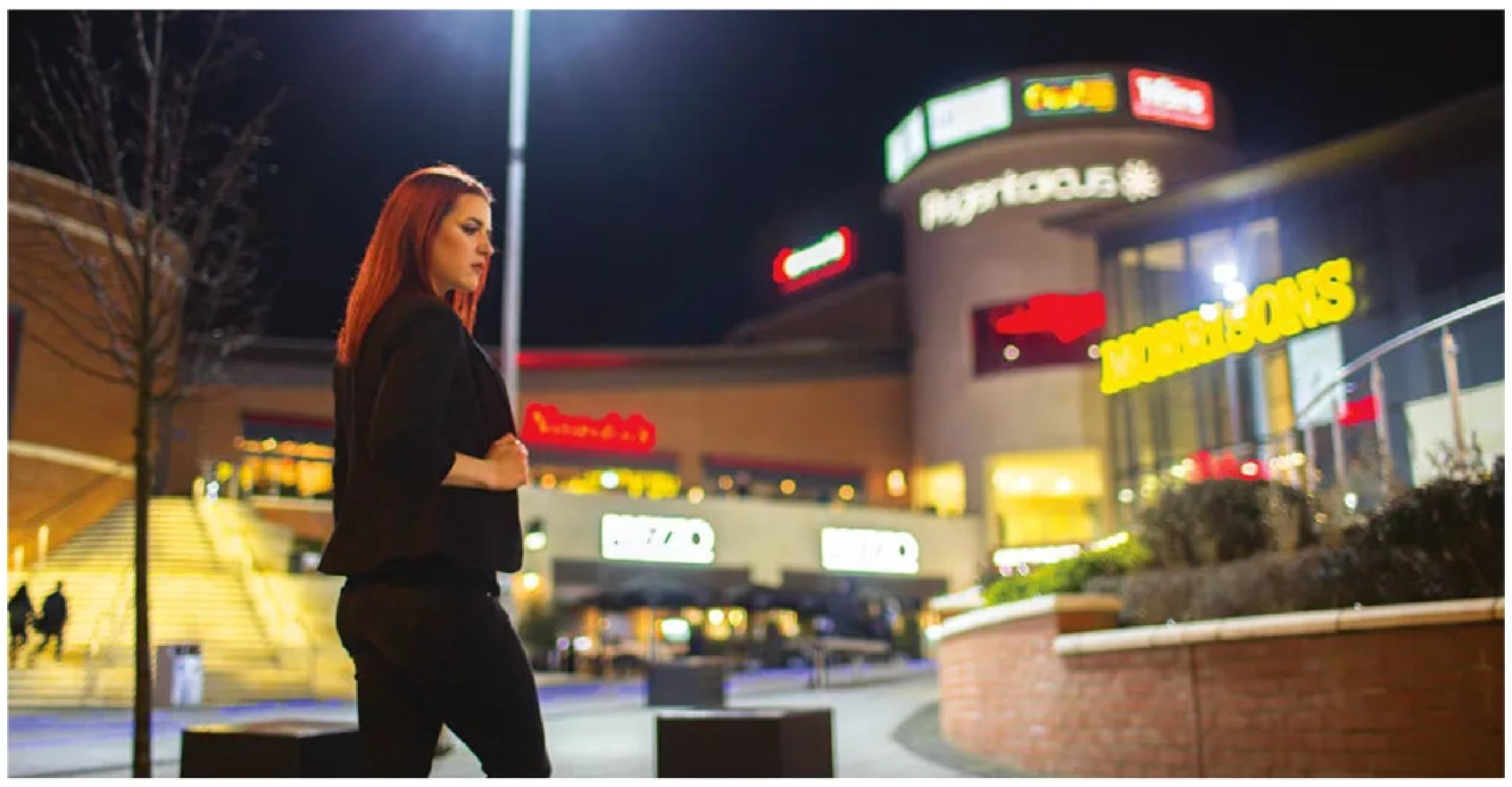
But with portraits we're always going to be restricted, as a person can only stay perfectly still for a moment. In this scenario we need high ISOs and wide apertures. It'll also help if you have a camera that performs well at higher ISOs (most modern DSLRs will do) and a lens that offers a wide maximum aperture.

Shoot Raw

This is the kind of shooting scenario where your camera's Raw quality setting can really show it's worth. Shooting portraits after dark will often mean tricky metering, as there will be bright highlights and very deep shadows. Raw offers greater dynamic range than JPEG format, which means that there's greater headroom for recovering detail in blown highlights or dark areas. A second, equally useful benefit on a shoot like this is the ability to adjust white balance, post-shoot, with exactly the same results as if you'd done so before shooting.

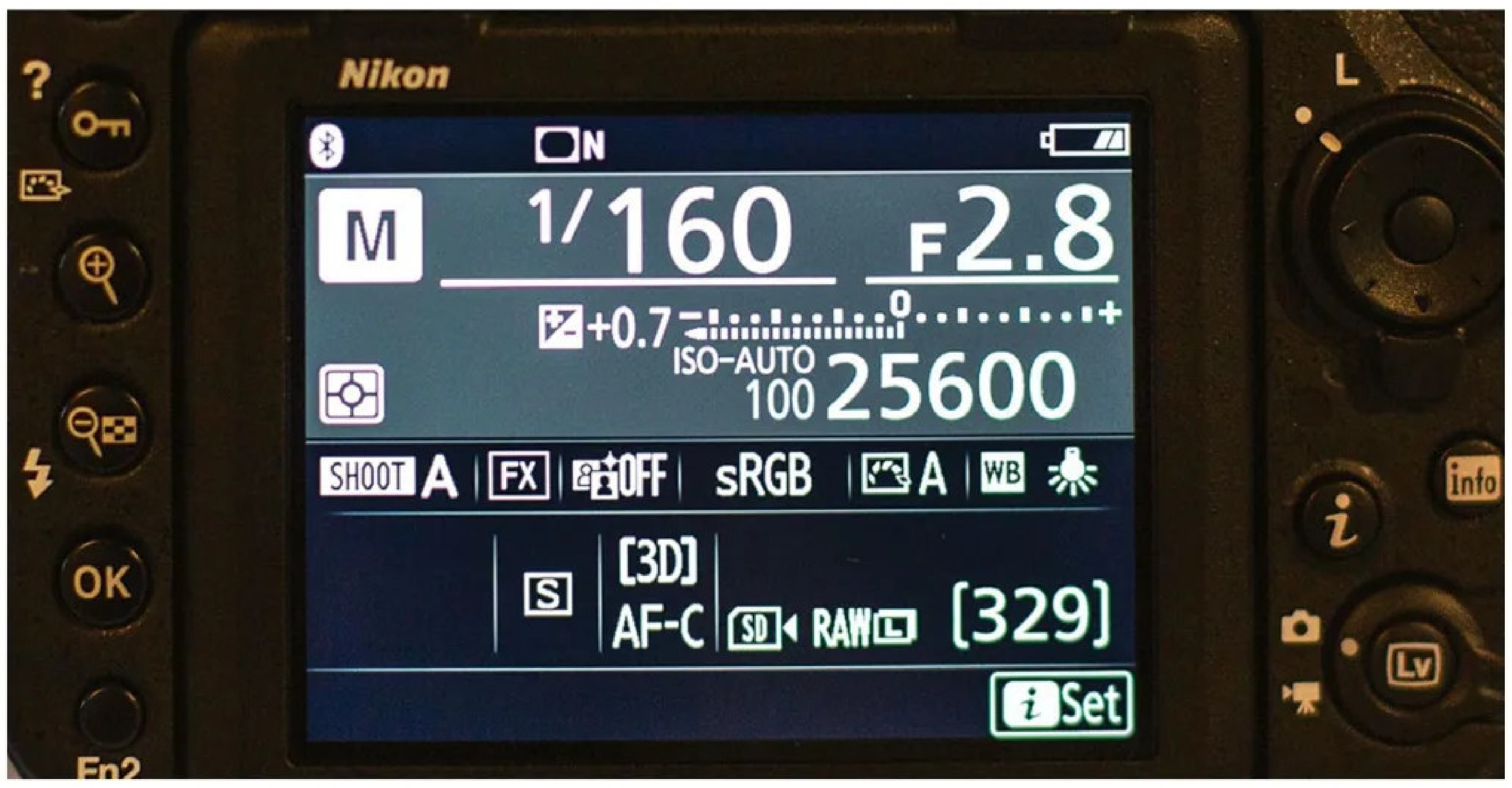
The next step

Step by step Find the light at night



01 Find the light

When shooting portraits out on the streets after dark, there will be little pockets of light here and there that can be used to light the face. We came across this spotlight after a few minutes of walking around a city centre. Its power and angle were perfect for our needs.

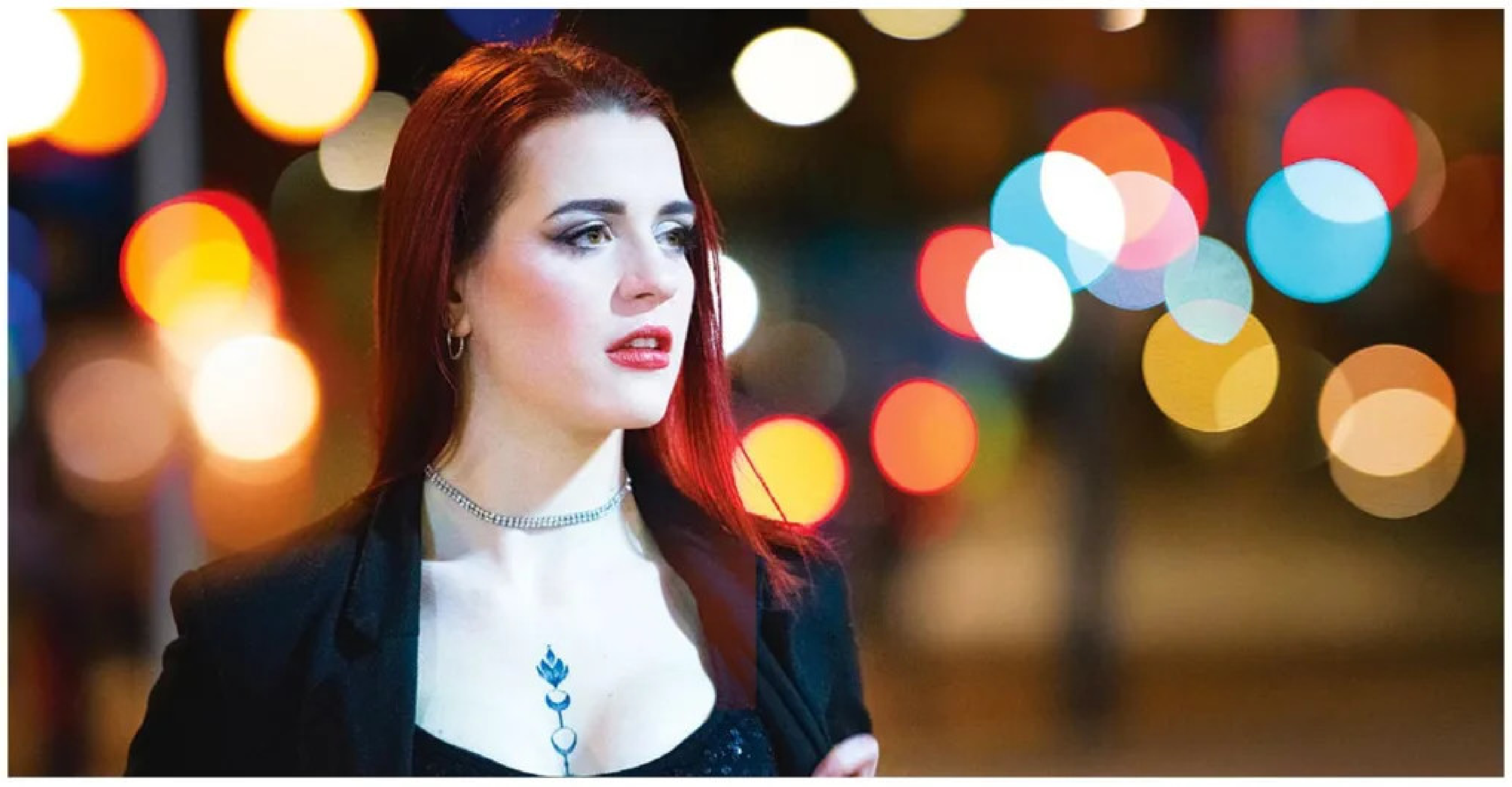


02 Use high ISOs

We need to keep the shutter speed around 1/100 to 1/200 sec, as any slower and we're likely to have camera or subject shake. Here we're in Manual mode with ISO set to Auto, which means it'll adapt to the scene. In this low-light setting our ISO hovered around 6400.

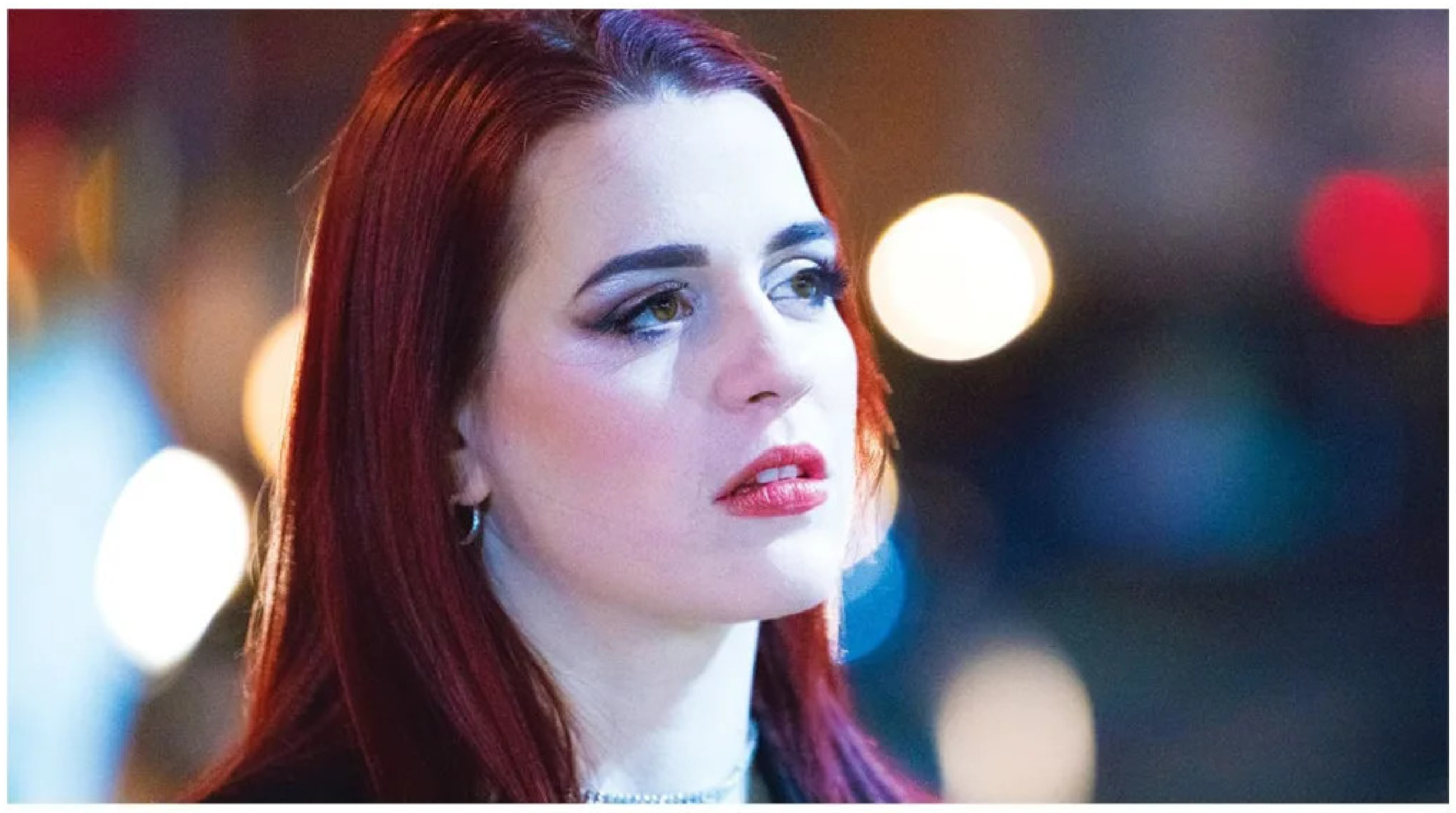
03 Set the max aperture

We open our aperture to its widest setting to allow the most amount of light through. With the 70-200mm lens here we can open up to f2.8. A wide aperture also creates a shallow plane of focus, which creates tastefully blurred background bokeh.



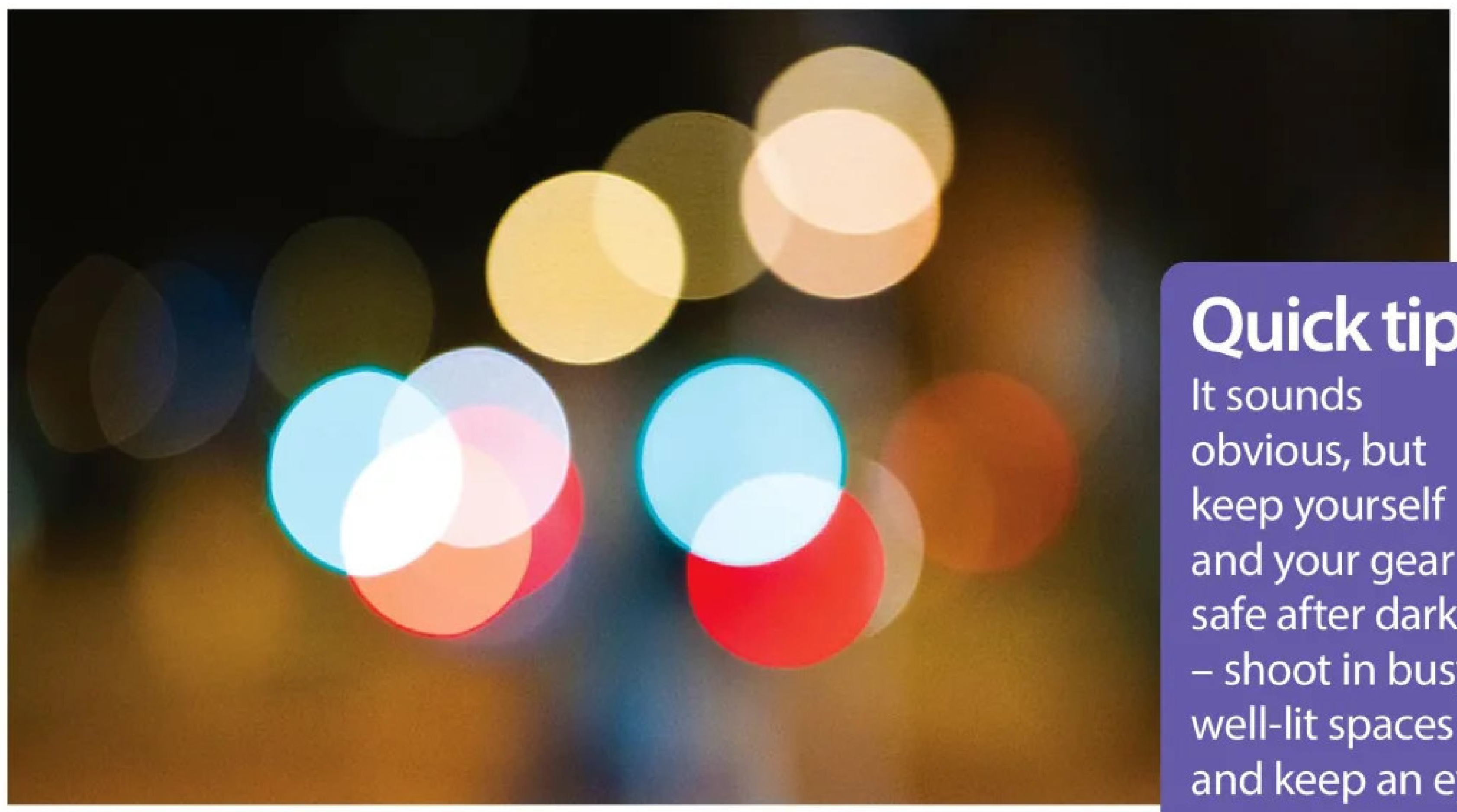
04 Meter off the face

When a frame is largely dark, as is often the case with night-time portraits, then your camera's meter can be fooled into overexposing the scene. If it does, consider using spot metering, or dial in exposure compensation to darken down the image.



05 Look to the light

Often, street lighting comes from above, so an upwards tilt of the chin can make the light fall in a more flattering way across the face. You can ask your subject to angle their body towards the light and lift the face towards it.



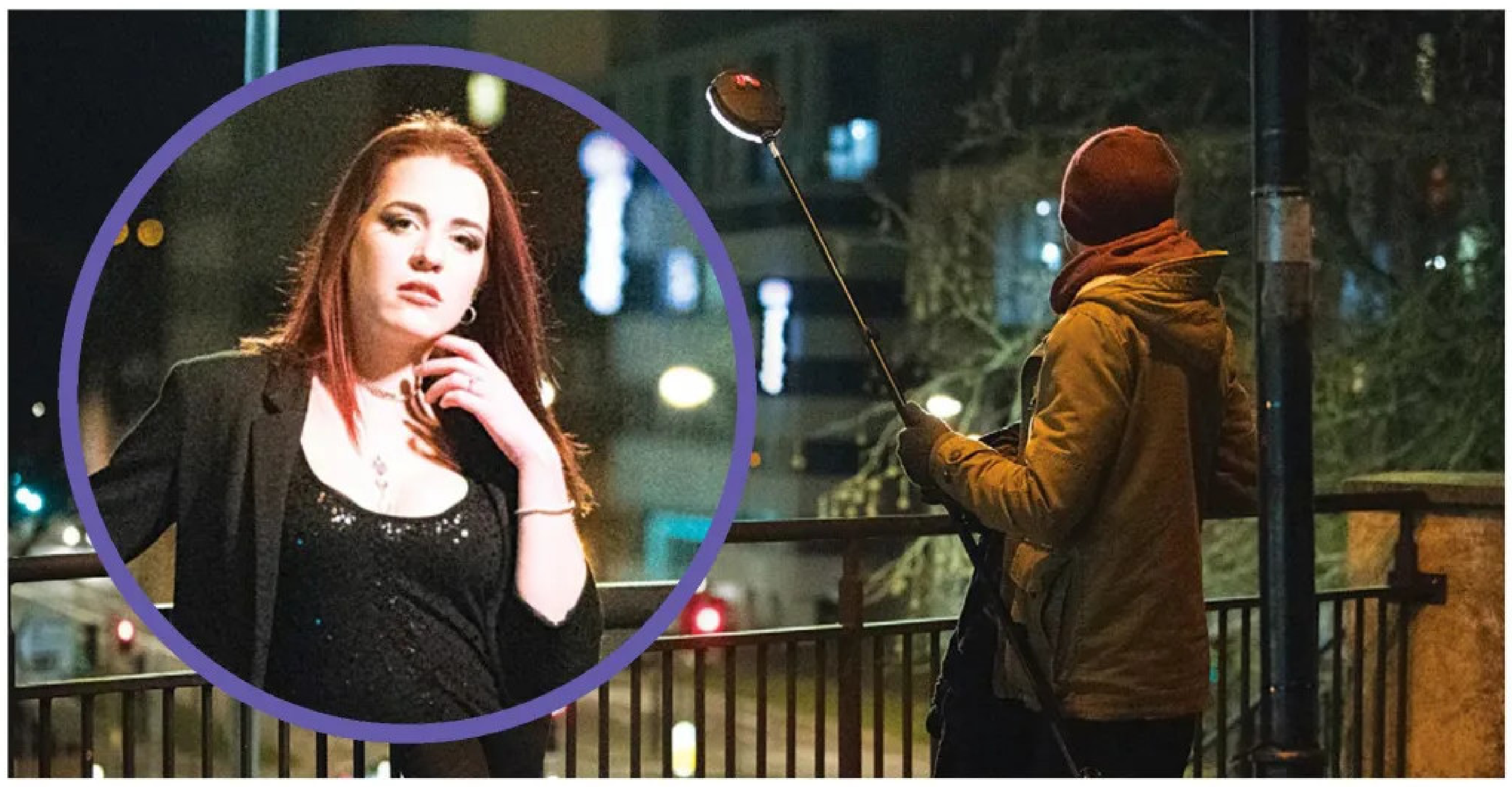
Quick tip

It sounds obvious, but keep yourself and your gear safe after dark – shoot in busy, well-lit spaces and keep an eye on your kit

06 Background bokeh

Car lights, traffic signs and any other small spots of lighting will be transformed into silky smooth, colourful bokeh when out-of-focus. The longer the lens, the more we compress the perspective, so these larger colourful spots appear.

Step by step LED lighting at night

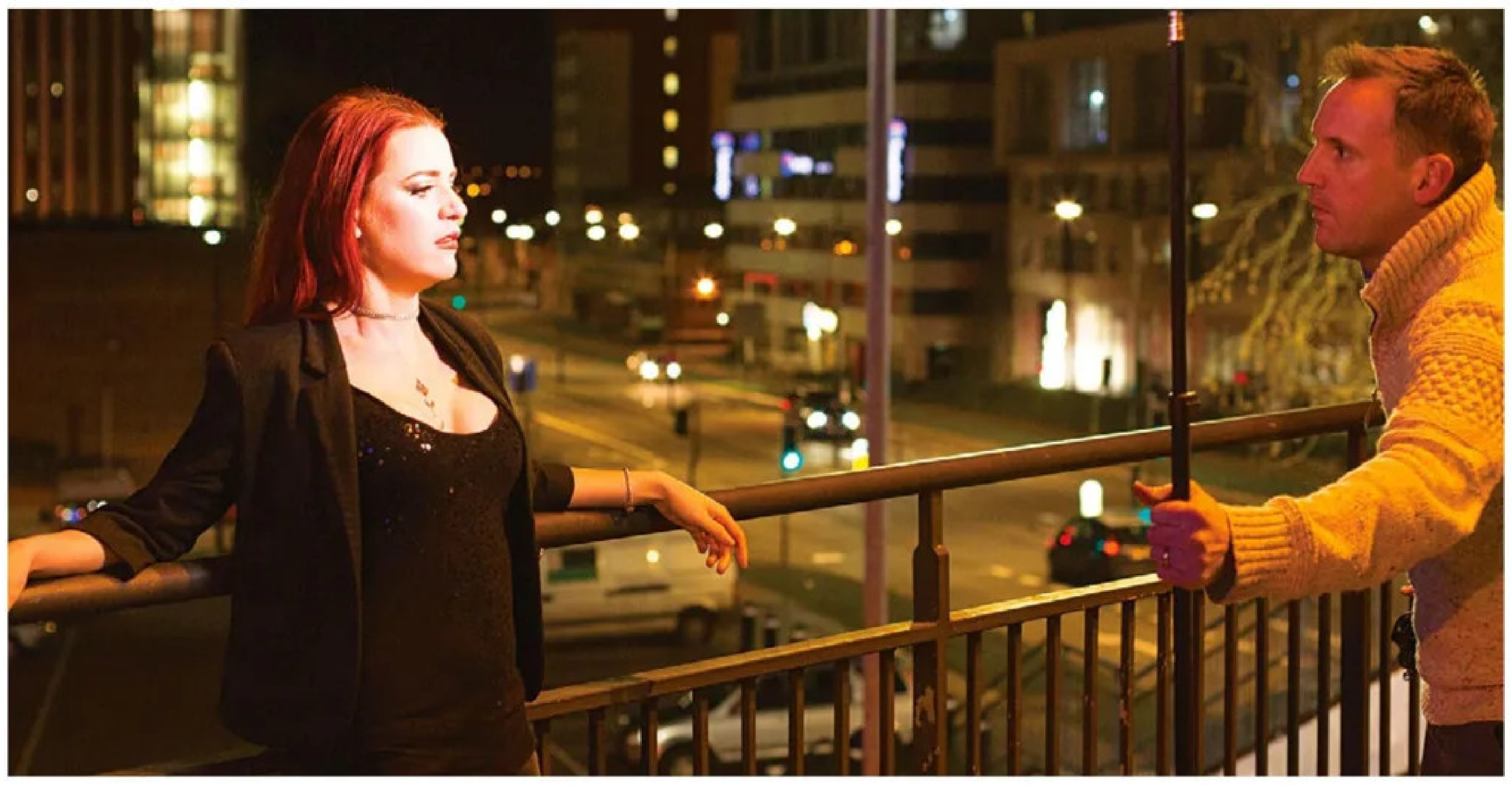


01 Make your own light

An extra LED light is ideal for night-time portraits, especially if – like the Rotolight Neo 2 we used – it allows you to alter the colour temperature. With dials for both brightness and colour temperature, we can balance the LED lighting with the ambient street lights in the scene.

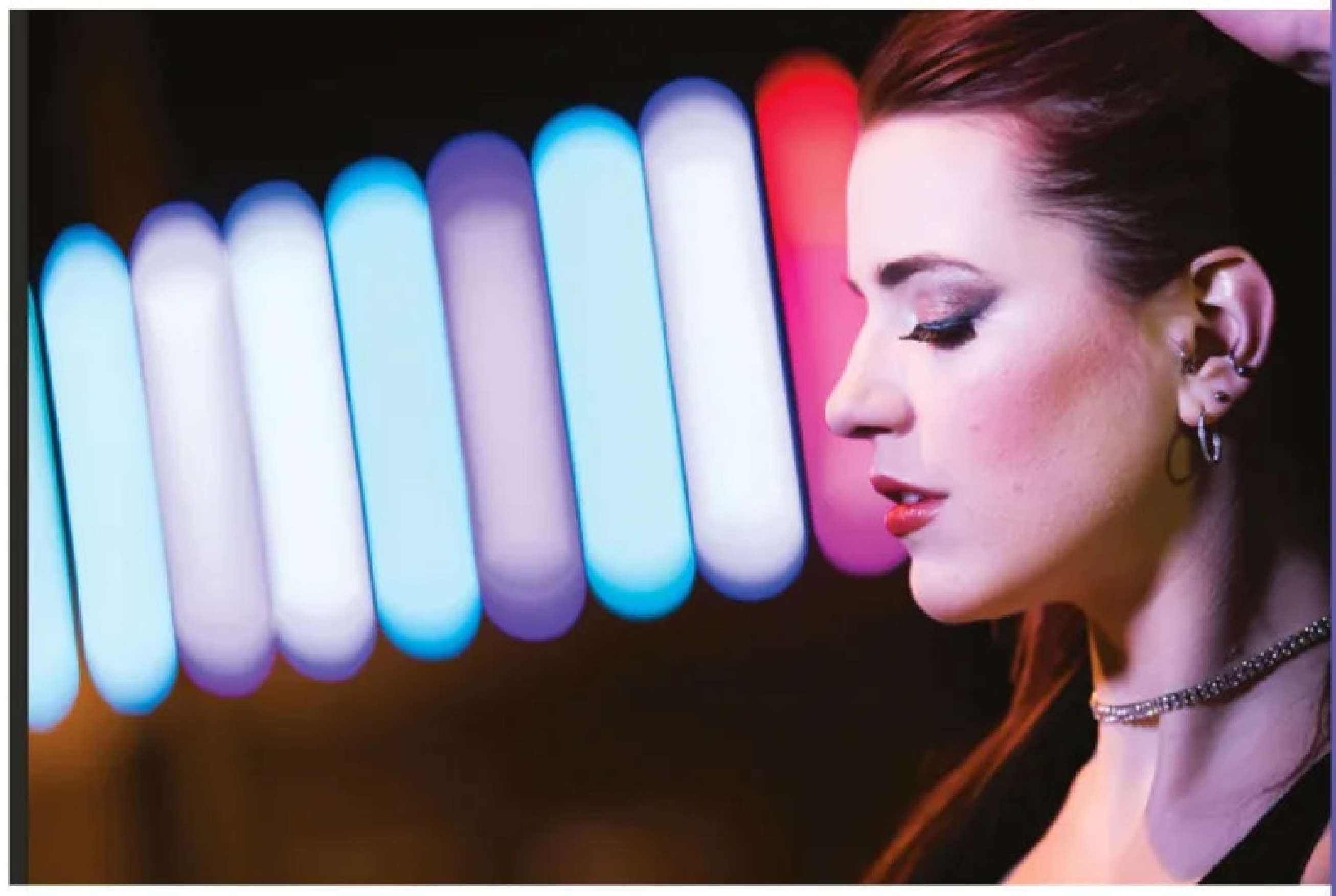
02 Expose for the ambient

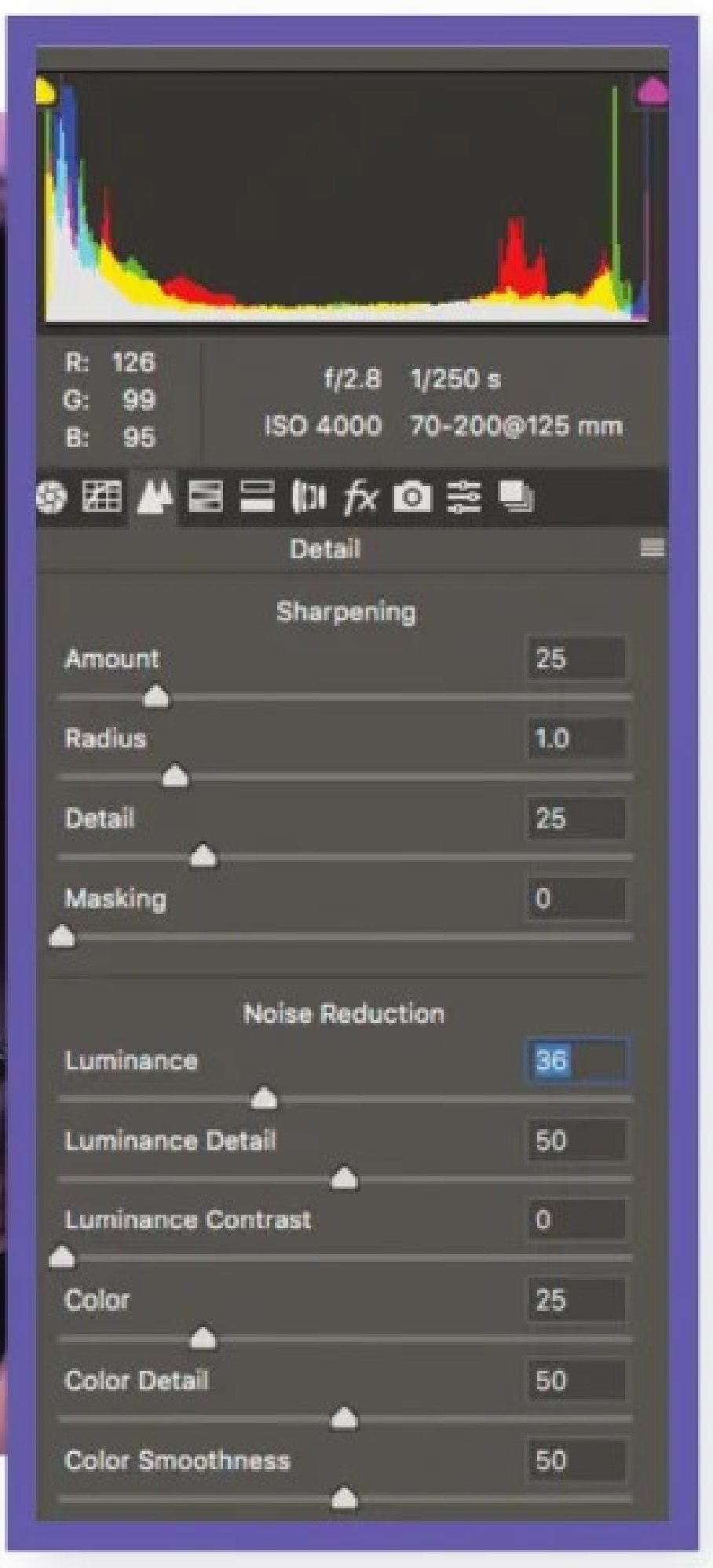
Before turning on the LED we first need to find a good spot with a colourful backdrop. The strips of colour-changing light here were ideal for such a backdrop. We took a quick snap to determine the ambient exposure. The face is in shadow, but that's what our LED is for.



03 Balance with the LED

Now with our composition sorted we can turn on our LED and use it to light the face – a portable light stand comes in handy here. Bringing a small light in close to the face like this will usually make it more flattering, as we increase its relative size in proportion to the face. This diffuses the light and makes it softer on the face.





R: 126
G: 99
B: 95
f/2.8 1/250 s
ISO 4000 70-200@125 mm

Detail

Sharpening

Amount 25
Radius 1.0
Detail 25
Masking 0

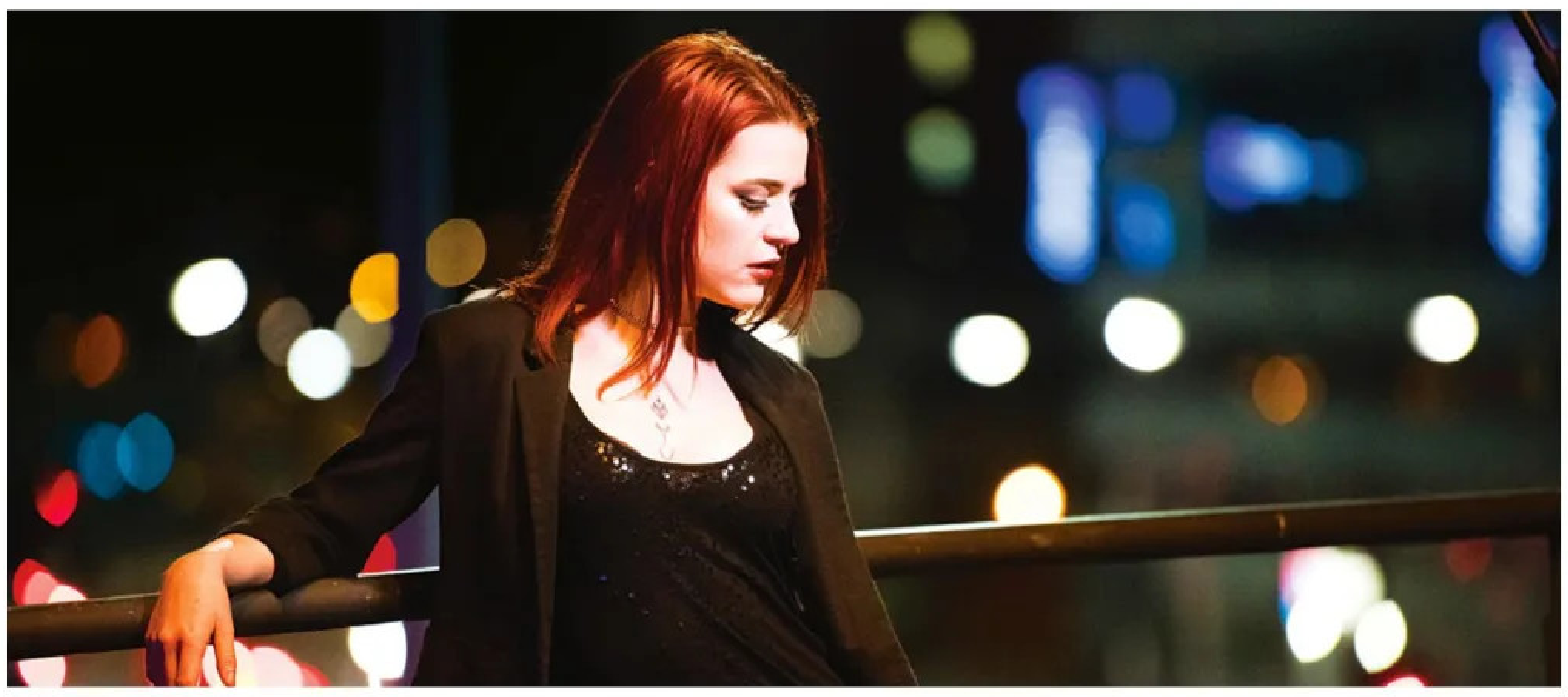
Noise Reduction

Luminance 36
Luminance Detail 50
Luminance Contrast 0
Color 25
Color Detail 50
Color Smoothness 50

04 Finish your images

After your night-time shoot, use noise reduction to tone down the grainy noise that is impossible to avoid when shooting at those higher ISO points. If you use Lightroom or Photoshop's Camera Raw plug-in, head to the Detail panel and increase Noise Luminance to tackle grainy and unsightly noise – much better!

Essential Skills Things to try at night



01 Get high at night-time

Look for compositions where you can include a backdrop that offers a range of lights, like a view down a busy street. A vantage point like this can be ideal, as you can include the lights from both traffic and surrounding buildings.

02 Slow shutter tricks

Why not try including moving traffic in the backdrop? With a slower shutter speed we can blur the movement of the background. You'll need to hold the camera steady, or use a tripod, and ask your subject to stand perfectly still too.

Improve exposure

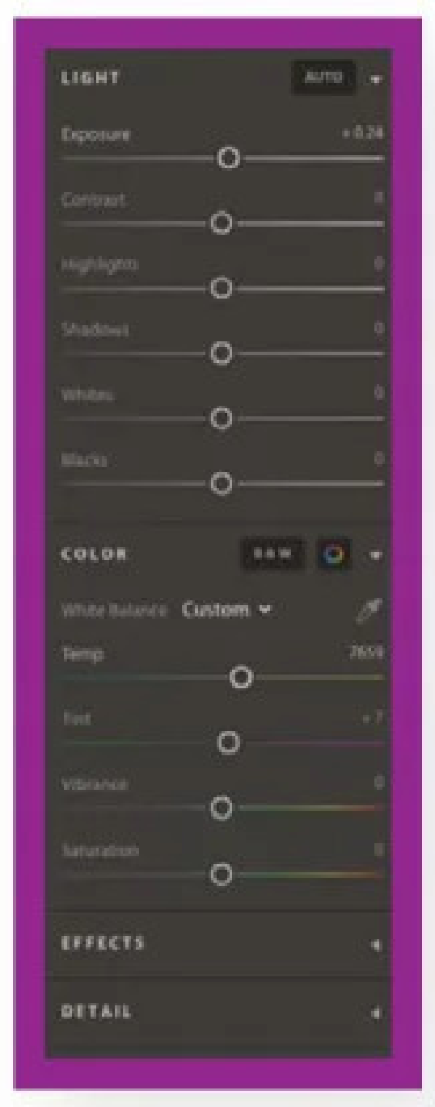
Discover how to use the Light panel effectively in Lightroom CC

When importing photos into Lightroom CC, the first thing you'll want to do is begin processing the images. On the right side, under the Edit panel, the first set of edit controls available reside in the Light panel – aptly named, for it allows you to control the light levels of the photograph. From here it's possible to adjust overall Exposure (brightness) of your image, alter Contrast, control Highlights, lift or reduce Shadows, and adjust the Whites and Blacks sliders.

If you have an underexposed image, it's possible to increase the exposure and save an image that otherwise would be lost. However, the controls should be used sparingly, for if you've underexposed an image, even if you can retrieve that data through, say, increasing the exposure by a stop or two, the image quality will begin to suffer. And it's only useful when using Raw files, JPEGs are a lot harder to manipulate due to their 'lossy' format (they are compressed to reduce file size – meaning there's less information in the photo).

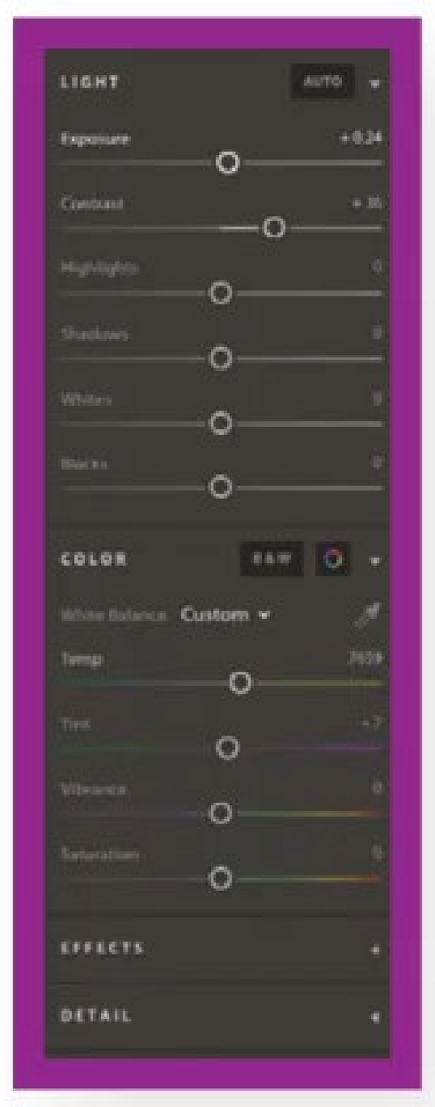
Overall, it's best to get the photo as right as possible when taking it, rather than using Lightroom as a fix. It's a better discipline to treat the software as a boost to an already well-exposed image. So with that, let's take a look at the Light panel's sliders…

> "It's best to get the photo right when taking it, rather than using Lightroom as a fix"



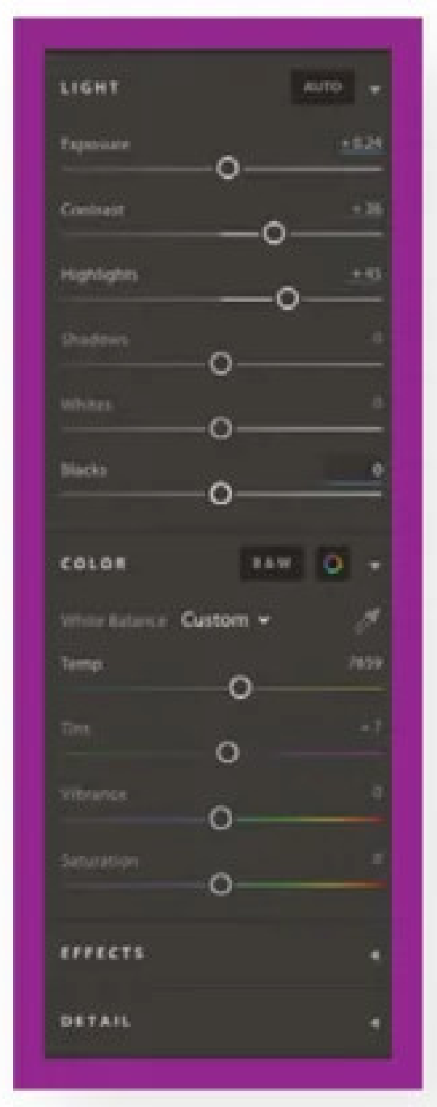
01 Exposure

This adjusts overall image brightness. In this photo the landscape is darkish, so we increase exposure to +0.24. Exposure can be boosted or reduced by 5 stops either way, but if your original image is under/overexposed by more than 1 stop, you'll lose quality.



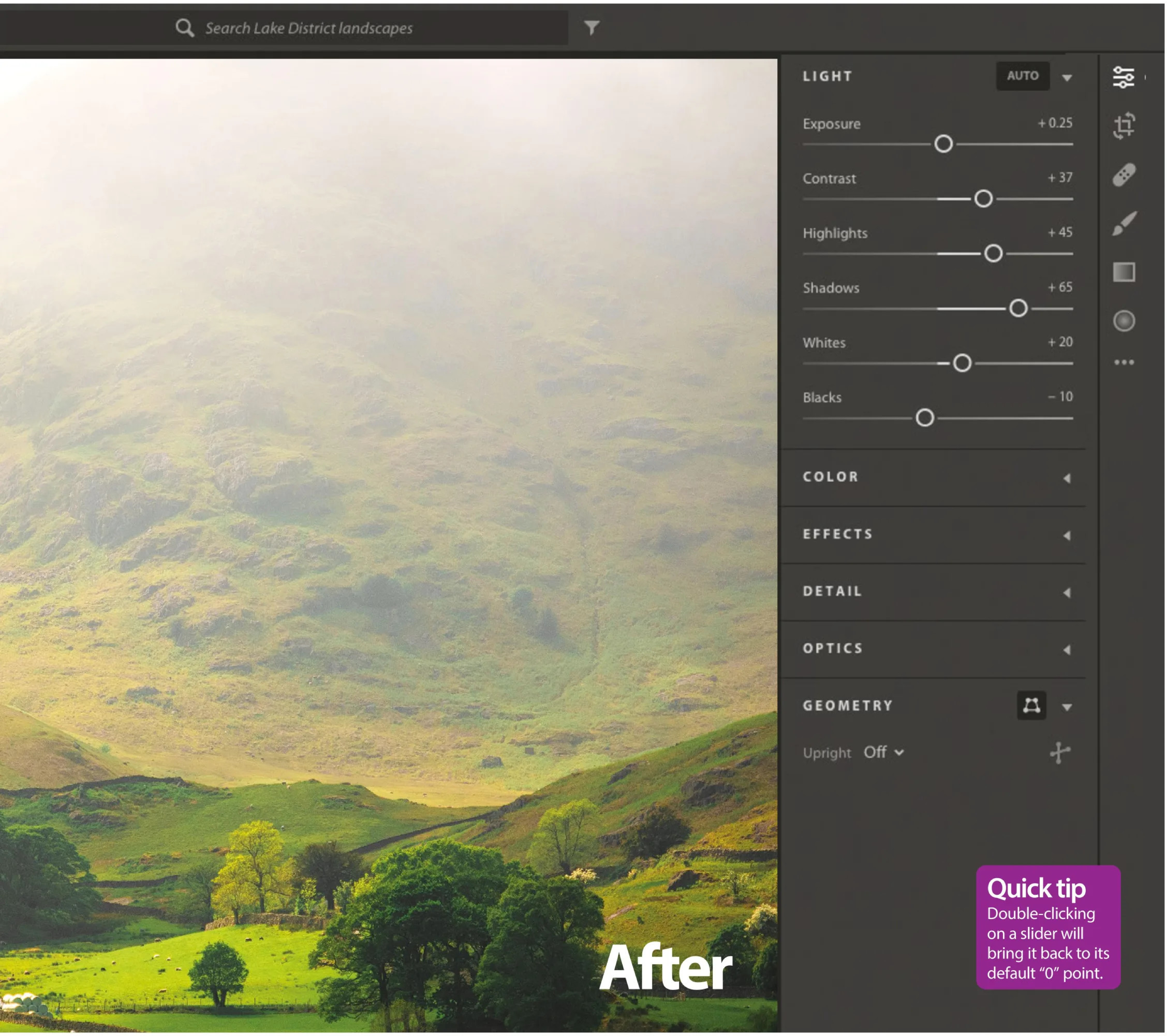
02 Contrast

Increasing contrast will help to define the edges in the scene. Here we've added +36 contrast to increase the difference between light and shade. Adding a negative value here will decrease this difference and create a greyer and flatter image.



03 Highlights

Highlights are the bright areas of an image, but not quite the brightest – that is reserved for the Whites slider. To increase detail in the lighter areas increase this value. We've opted to boost the Highlights by +45 to bring out the grass on the peak in the distance.



Exposure + 0.25

Contrast + 37

Highlights + 45

Shadows + 65

Whites + 20

Blacks – 10

Upright Off

Quick tip

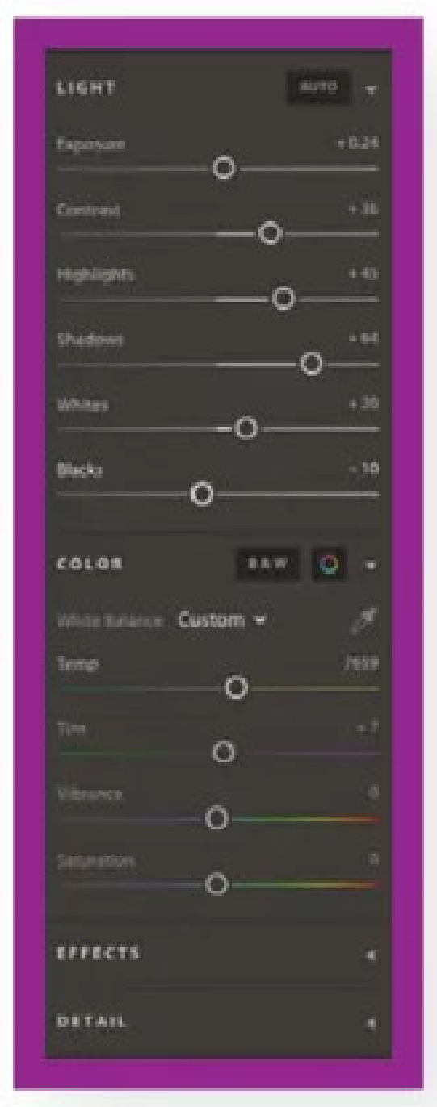
Double-clicking on a slider will bring it back to its default "0" point.

04 Shadows

Similar to Highlights, the Shadows slider covers the darker parts of the image, but not the darkest. The darker areas are in the lower half of the frame, with less mist and deeper shade. We lifted them by +64 to reveal detail lost by adding positive Contrast.

05 Whites

The Whites slider controls the very brightest parts of your image. In this photo that means it covers the top of the frame, where the line of fog just grazes the tops of the peaks. Using the Whites slider we pushed this up to +20 to make the fog even brighter.



06 Blacks

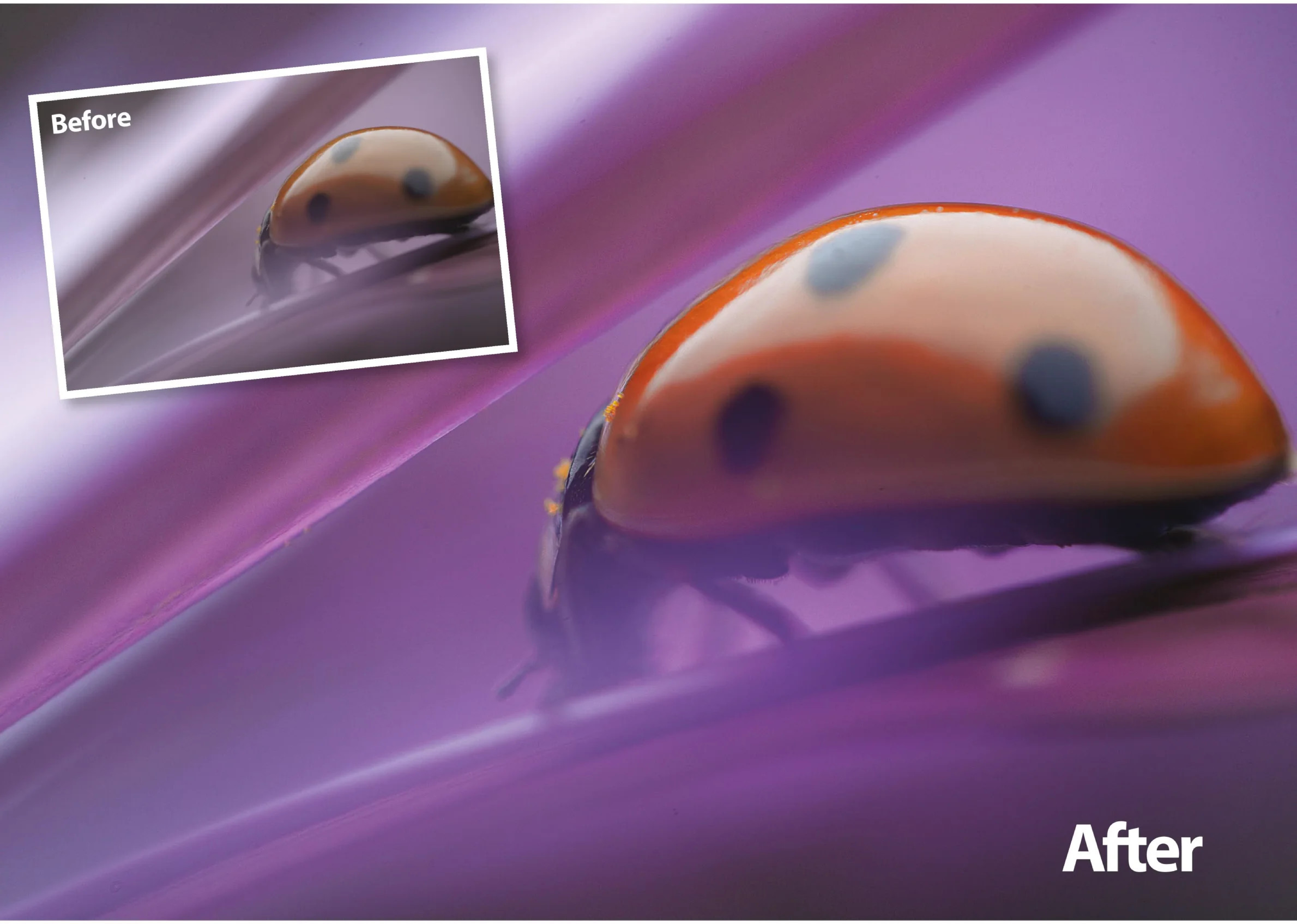
The Blacks slider reacts in a similar way to the Whites slider, but it controls all the darkest areas of your shot. After lifting the Shadows in the image to regain detail, the very darkest shadows were unnaturally bright, so we reduced the Blacks slider to -10.

Transform and boost colour

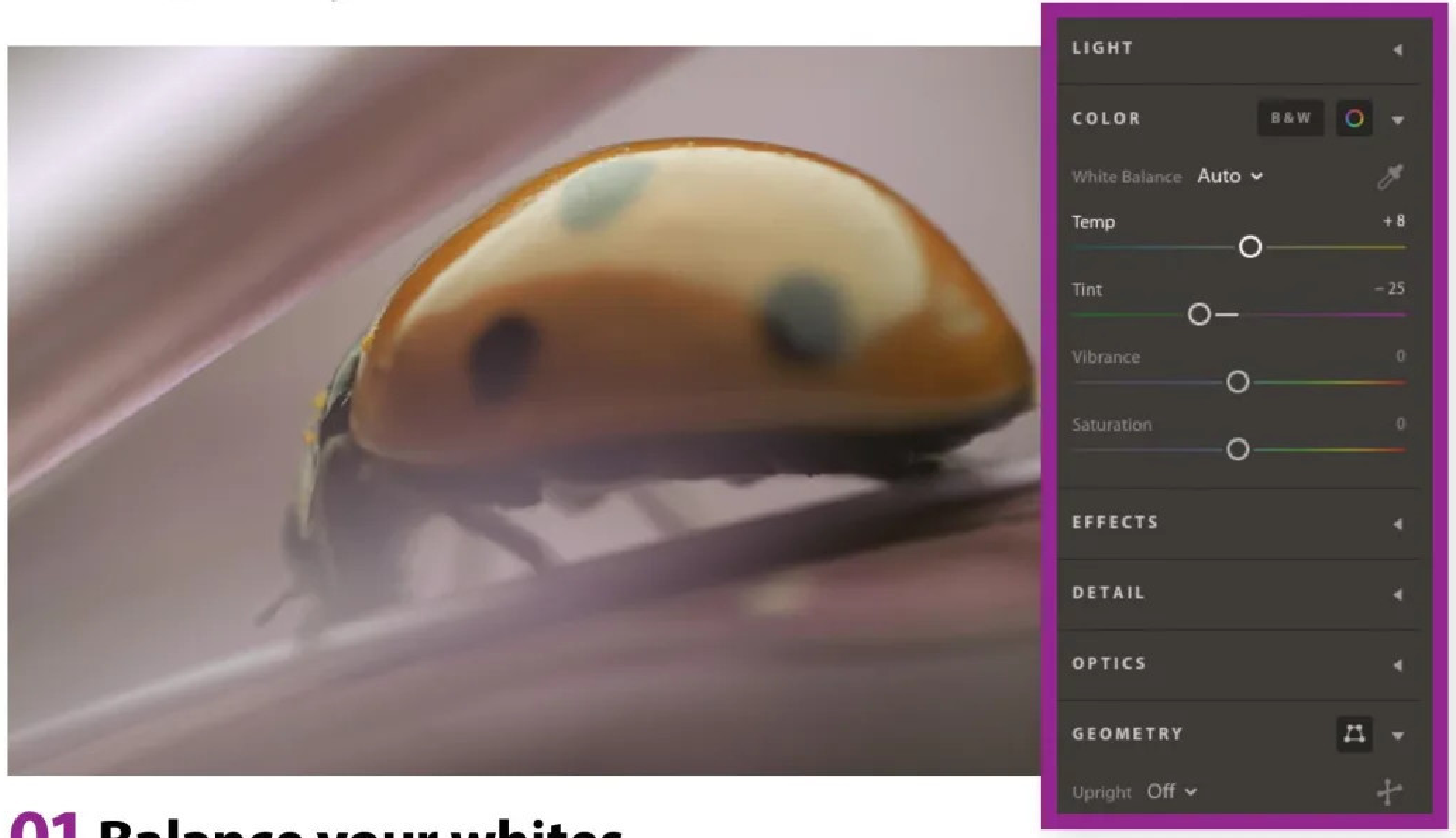
Whether you need to pump up your colours or convert your shots into black and white, we walk you through the powerful Color panel

Sometimes, even with lots of preparation in the white balance and colour settings in-camera, your final photo can lack punch. This could come down to a variety of different factors, including lighting conditions, lens flare or innate limitations in the image sensor. It's handy, then, that you can adjust colour in such a powerful way in Lightroom CC 2018. The Color panel is laid out in an intuitive way that makes it easy for even the beginner to navigate. From the top we see White Balance, Vibrance and Saturation. In Lightroom CC 2018, we also have a redesigned Color Mixer, which makes it easier to selectively adjust the Hue, Saturation and Luminance settings of any individual colour channel as you wish. If you get stuck, Adobe has even thrown in simple animations that appear when you hover the cursor over the names of the sliders. So let's take a look at how to make this macro shot sing.

> "The Color panel in Lightroom is laid out in an intuitive way that makes it easy for even the beginner to navigate"



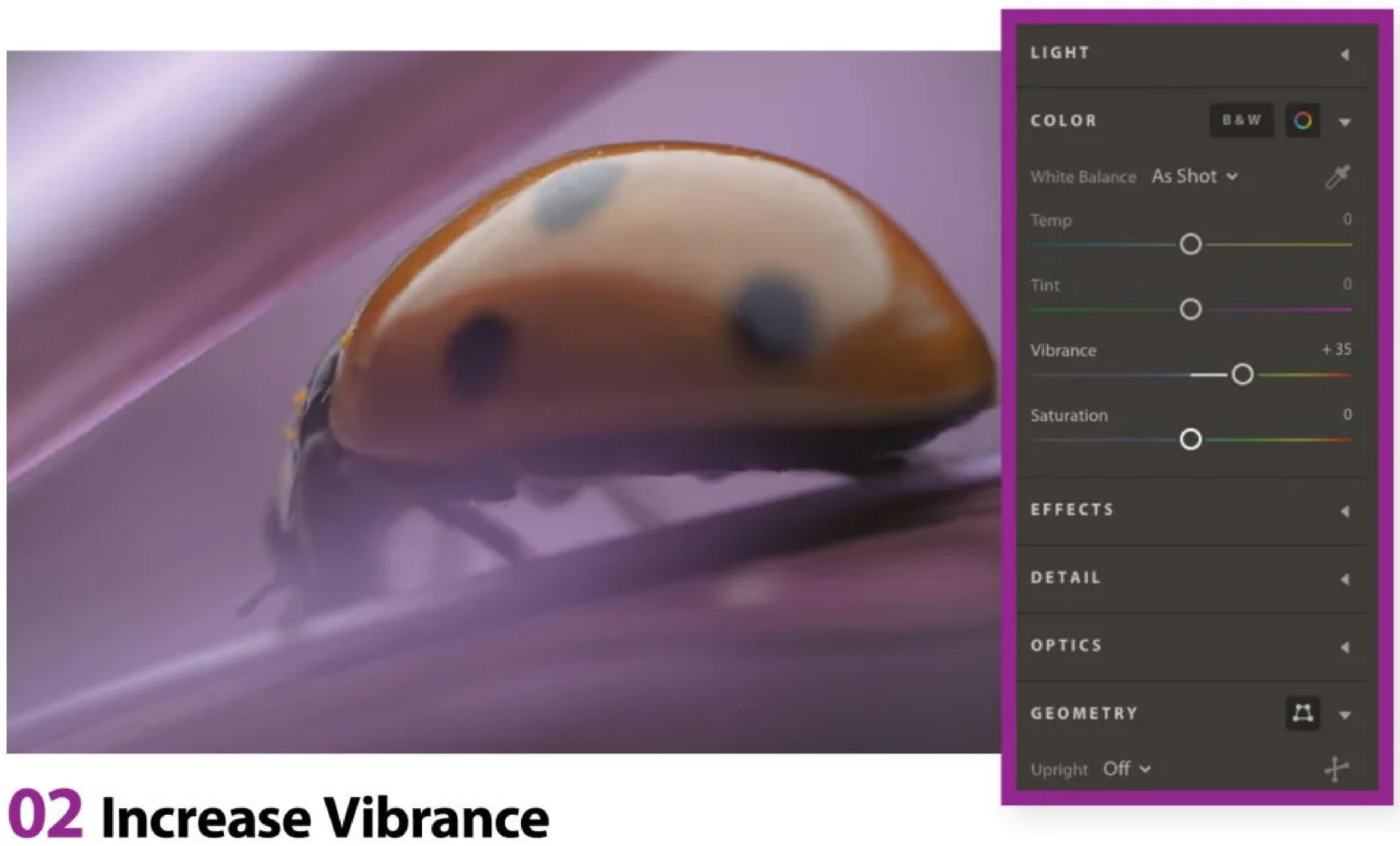
Step by step Take control of colour in Lightroom



White Balance Auto
Temp +8
Tint −25
Vibrance 0
Saturation 0
Upright Off

01 Balance your whites

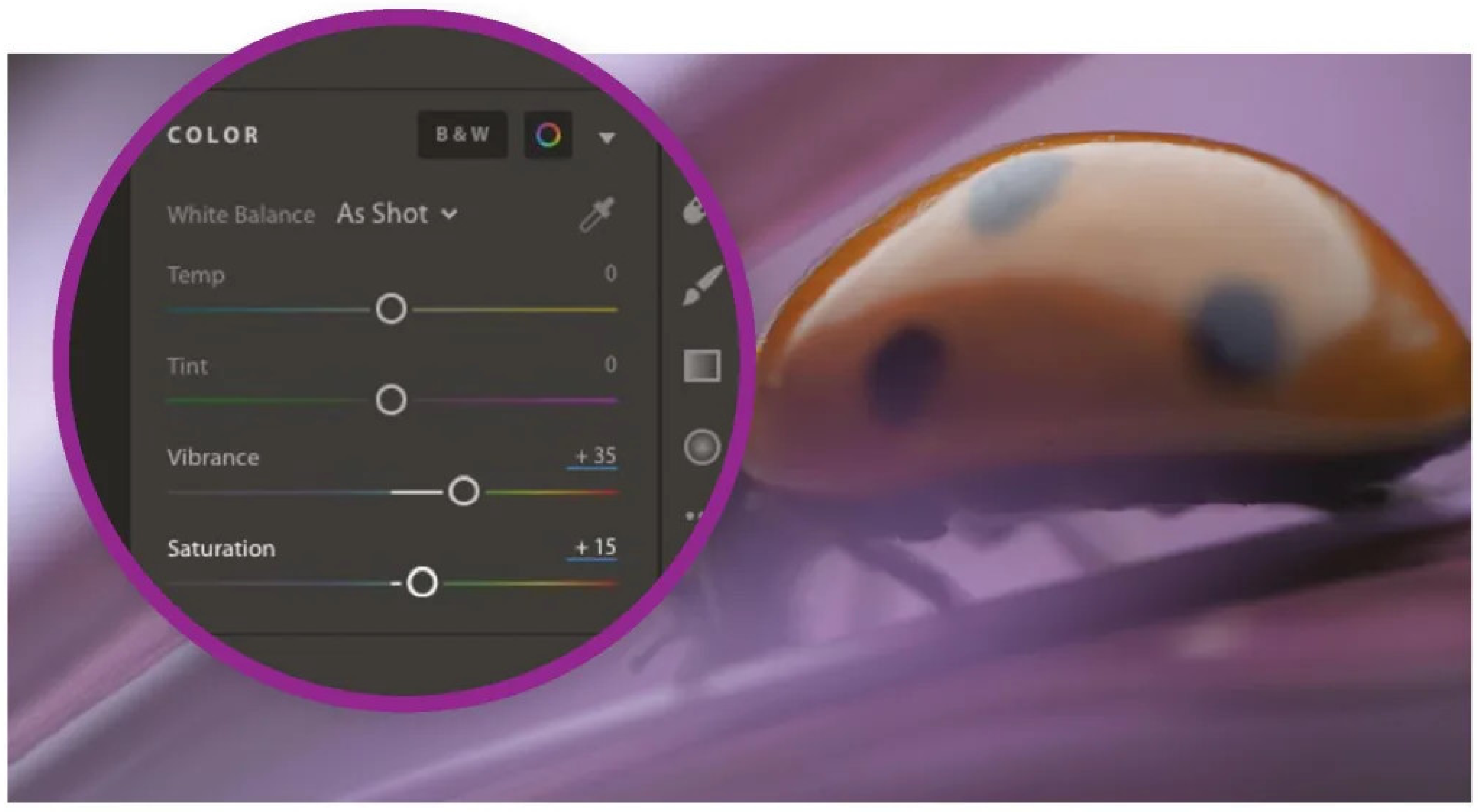
On the whole, auto settings are a good go-to for most of us to start with, and n some cases Lightroom intelligently picks the right colour correction. But here, it draws all the colour out of the flower and insect, so we want to stick with As Shot.



White Balance As Shot
Temp 0
Tint 0
Vibrance +35
Saturation 0
Upright Off

02 Increase Vibrance

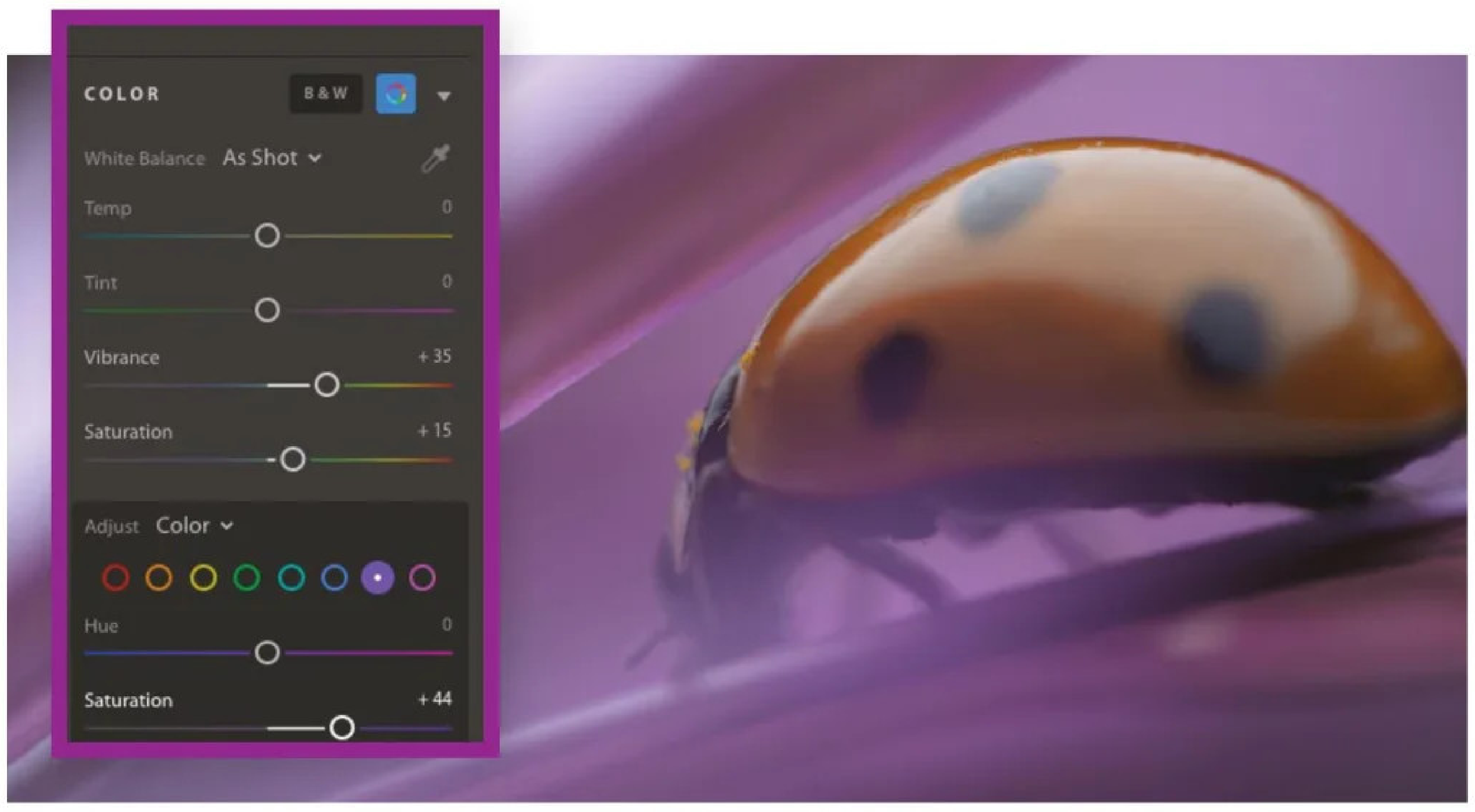
Vibrance works by boosting or reducing the middle tones of colour; you'll see this in the more subtle colours in an image, like the wider parts of the petals here. This is particularly useful where, as in our shot, a lot of the frame is filled with more subdued tones that need boosting.



White Balance As Shot
Temp 0
Tint 0
Vibrance +35
Saturation +15

03 Boost Saturation

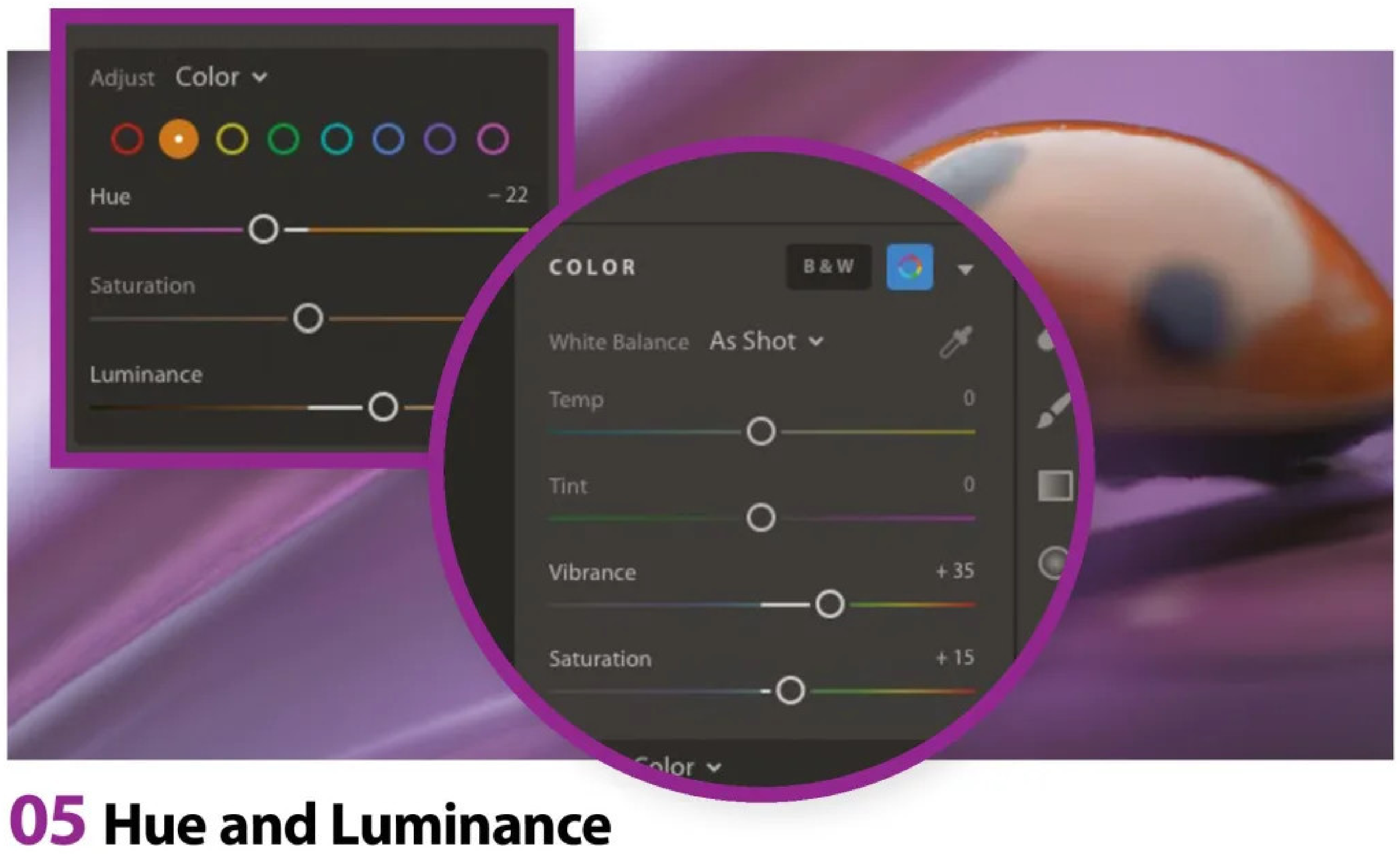
Saturation increases the colour of every pixel, across the board. Everything from bright highlights down to dark shadows will be altered, which also means it's possible to clip colours. Be careful not to overdo it when pulling the Saturation slider to the right.



White Balance As Shot
Temp 0
Tint 0
Vibrance +35
Saturation +15
Adjust Color
Hue 0
Saturation +44

04 The Color Mixer

This colour adjustment allows you to alter the intensity of individual colour channels. So if you have a blue sky, or a purple flower that you need slightly more colourful you can adjust saturation of the appropriate colour channel to suit.

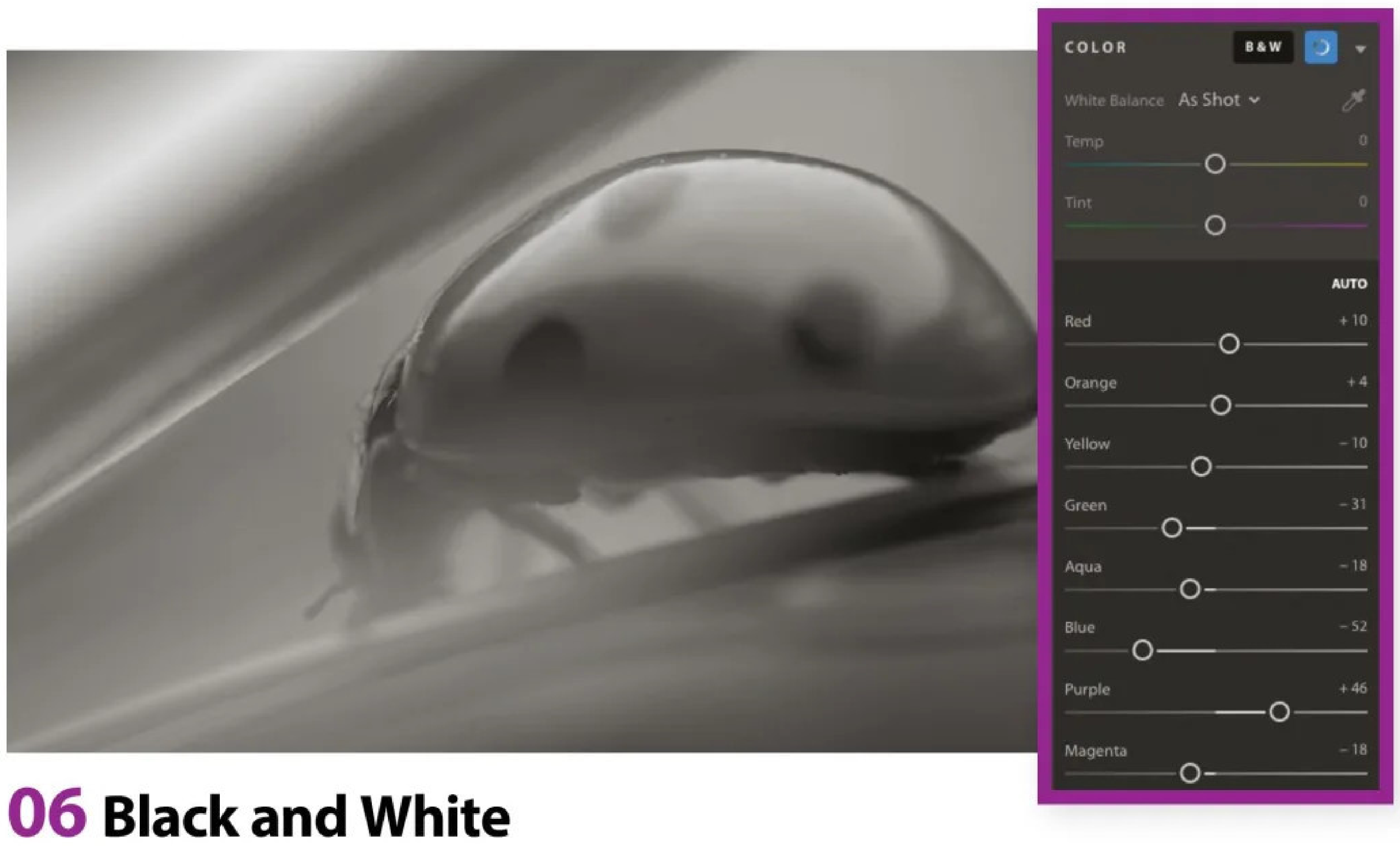


Adjust Color
Hue −22
Saturation
Luminance

White Balance As Shot
Temp 0
Tint 0
Vibrance +35
Saturation +15

05 Hue and Luminance

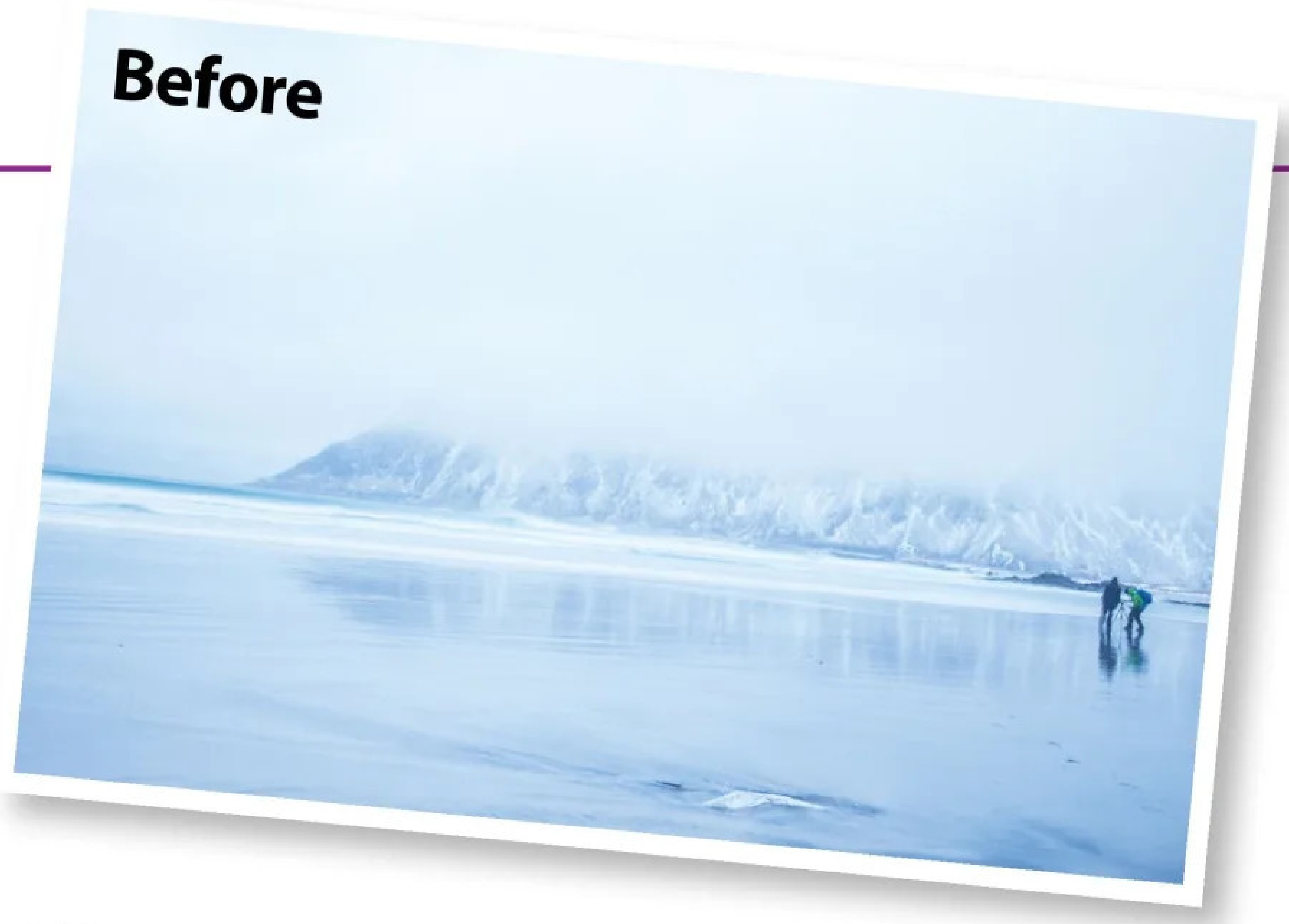
With the Color Mixer, you can also change a channel's hue. We've dragged the Orange channel's Hue slider to the left, which makes the insect redder. Luminance changes the brightness of the colour; here we've increased Orange Luminance to make the insect brighter.



White Balance As Shot
Temp 0
Tint 0
Red +10
Orange +4
Yellow −10
Green −31
Aqua −18
Blue −52
Purple +46
Magenta −18

06 Black and White

In Black and White mode, you can see a mixer for all colour channels. Drag a slider to the left and you darken that colour; drag it to the right to brighten it. To make the insect stand out, we boosted Orange and Yellow; we reduced Purple and Magenta to darken the flower.



Master the Effects and Detail panels

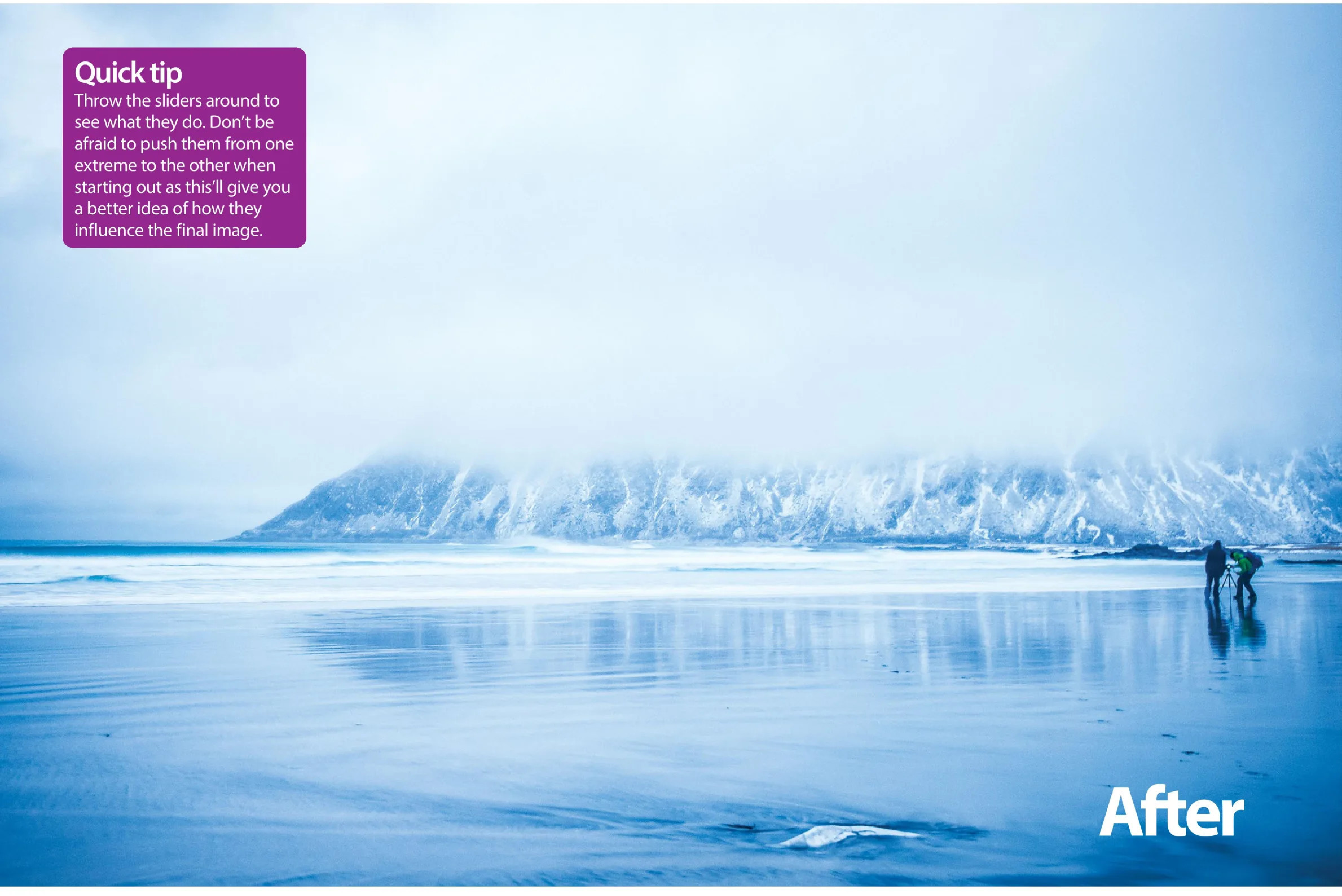
We use small but powerful incremental adjustments to drastically improve the results of your hazy shots

The Effects and Detail panels are two features of Lightroom CC that, although not new, work together seamlessly to powerfully alter the final image. They combine a lot of useful but incremental adjustments that include changing contrast, sharpness and noise for a drastically different photograph. You might find these areas useful when working on a photo like ours here – something hazy, distant, lacking contrast or definition. Sometimes haze can enhance an image, but in this case we have two people towards the right of the frame we want to highlight. The mountains behind the subjects are covered with cloud, which makes them less impressive. So we're going to give this shot a boost of sharpness for a more striking, visually appealing result.

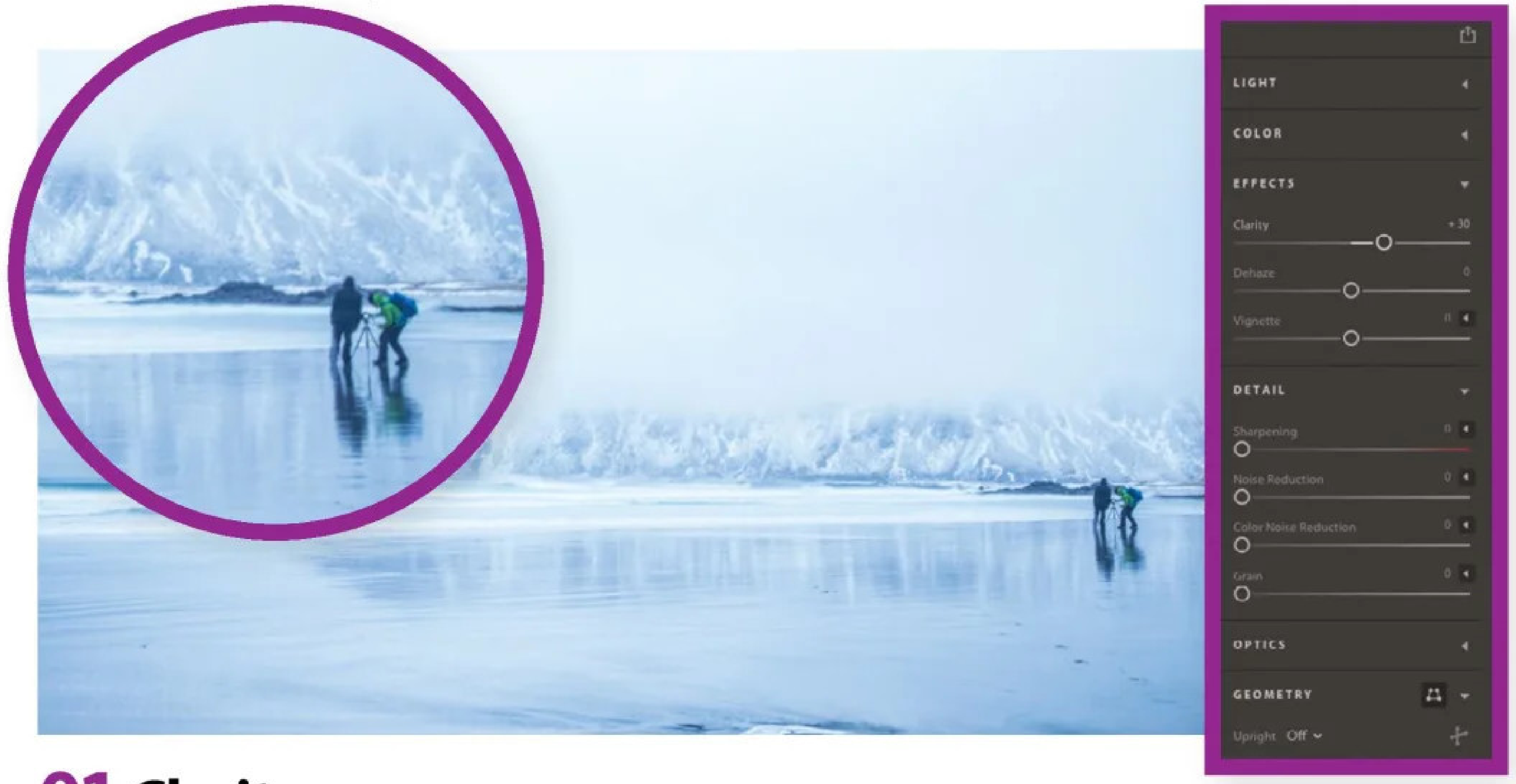
> "We're going to give this shot a boost of sharpness for a more striking, visually appealing result"

Quick tip

Throw the sliders around to see what they do. Don't be afraid to push them from one extreme to the other when starting out as this'll give you a better idea of how they influence the final image.



Step by step The devil's in the Detail and Effects panel



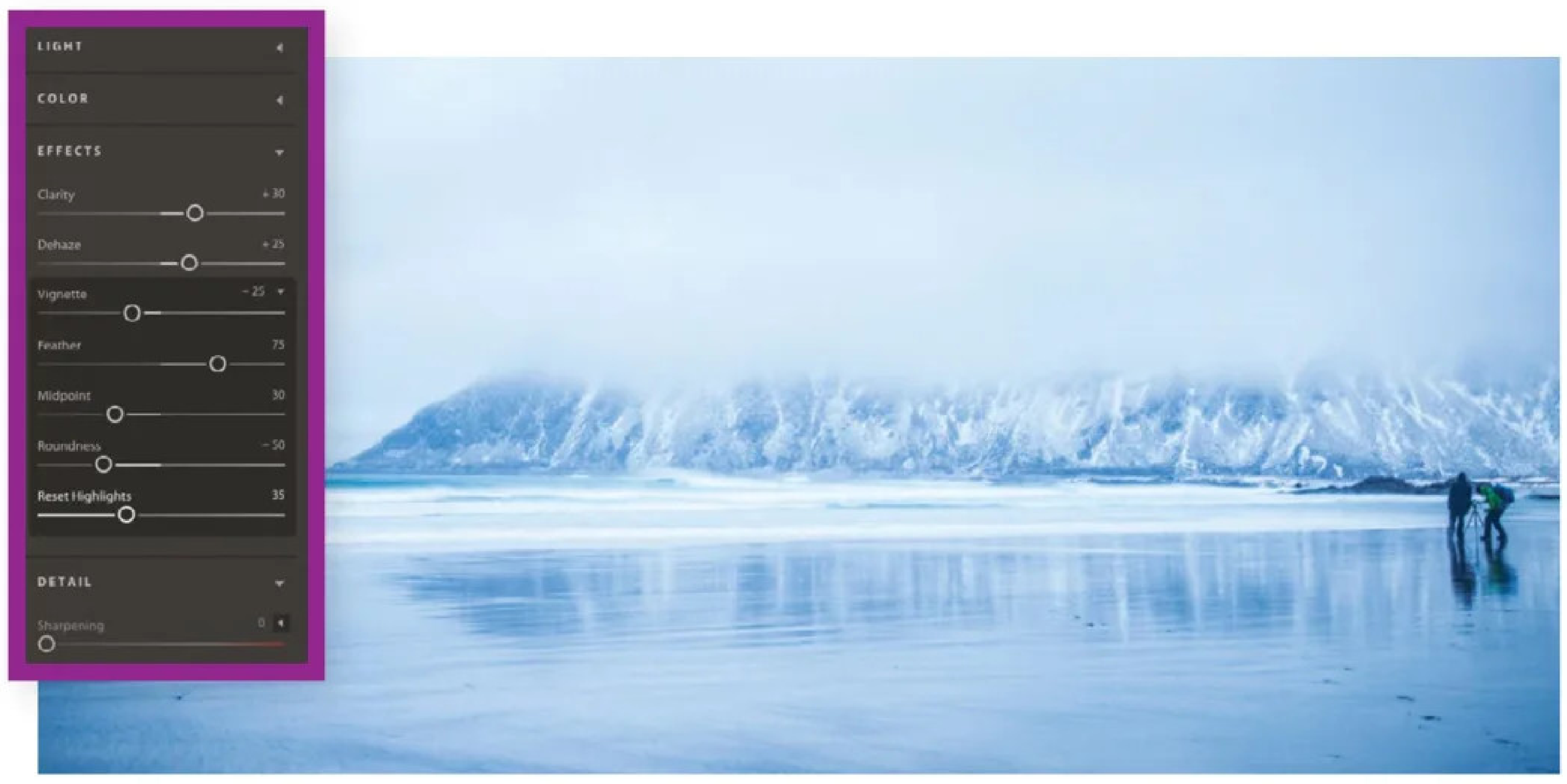
Clarity +30
Dehaze 0
Vignette 0
Sharpening 0
Noise Reduction 0
Color Noise Reduction 0
Grain 0
Upright Off

01 Clarity

If you want to increase midtone contrast then you'll need to alter the Clarity slider's position. This gives a stronger definition to the midtone shades (rather than highlights or shadows) by increasing the pixels' relative brightness/darkness. Be careful not to overdo it, however, as it's a very powerful tool, so subtlety is the key here. In this instance we have added Clarity +30.

02 Dehaze

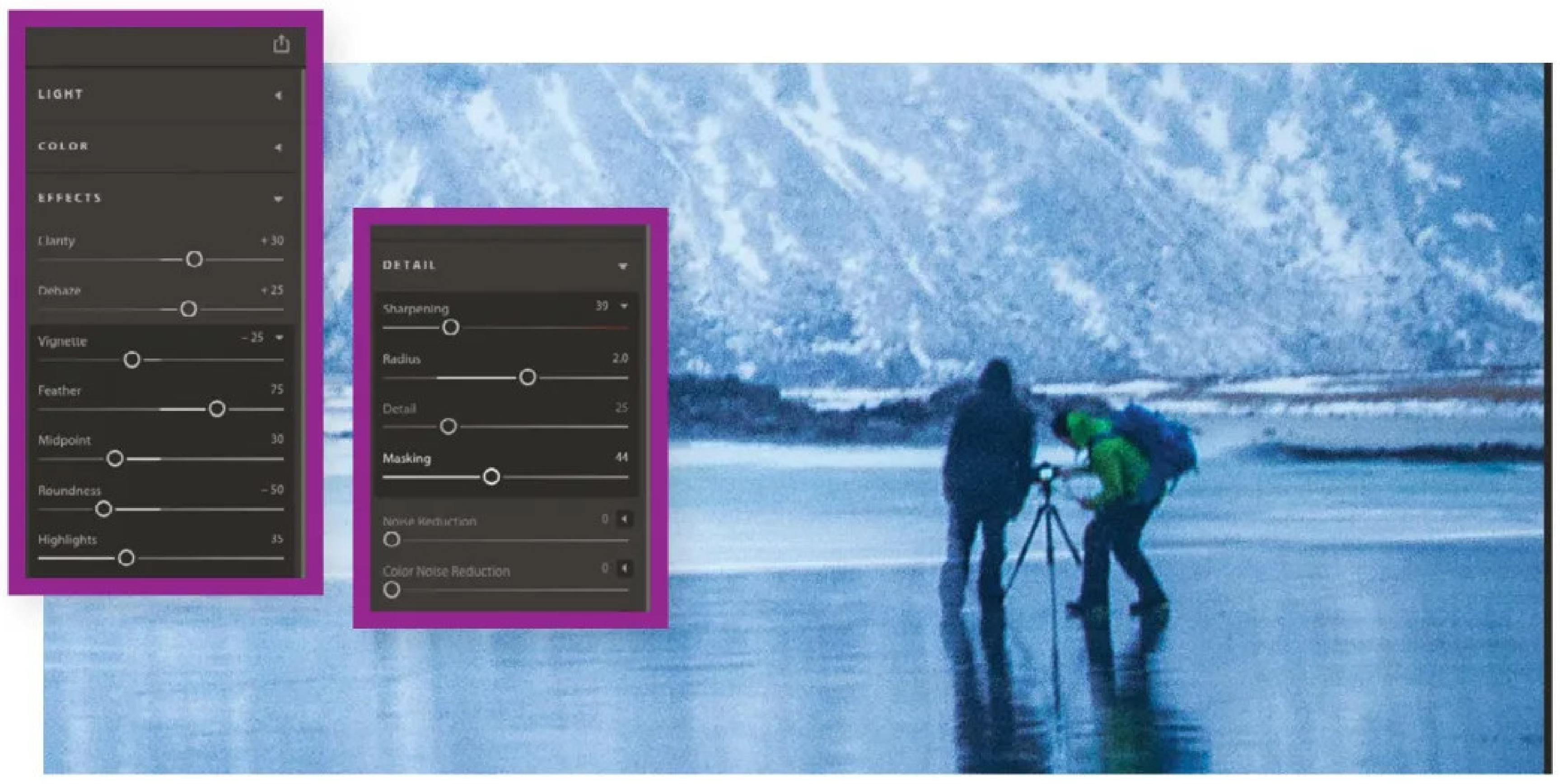
This slider, introduced a few years ago, may be new to Lightroom users who have only recently upgraded. The Dehaze slider is an impressive, and very selective, localized contrast effect that analyses the image before working on it, and clears up potentially misty shots. Use it to reduce or increase fog and haze in your shot. Here we added +25 to make the hazy image clearer.



Clarity +30
Dehaze +25
Vignette −25
Feather 75
Midpoint 30
Roundness −50
Reset Highlights 35
Sharpening 0

03 Vignette

Create a dark band around the edge of your image by pushing the slider to negative values as we have here (-25), or a lighter band with a positive setting. This will help draw attention to the centre of the frame, and comes with a variety of options to adjust its transition into the frame – you can even alter its shape, depending on what you want, to square or rounded.

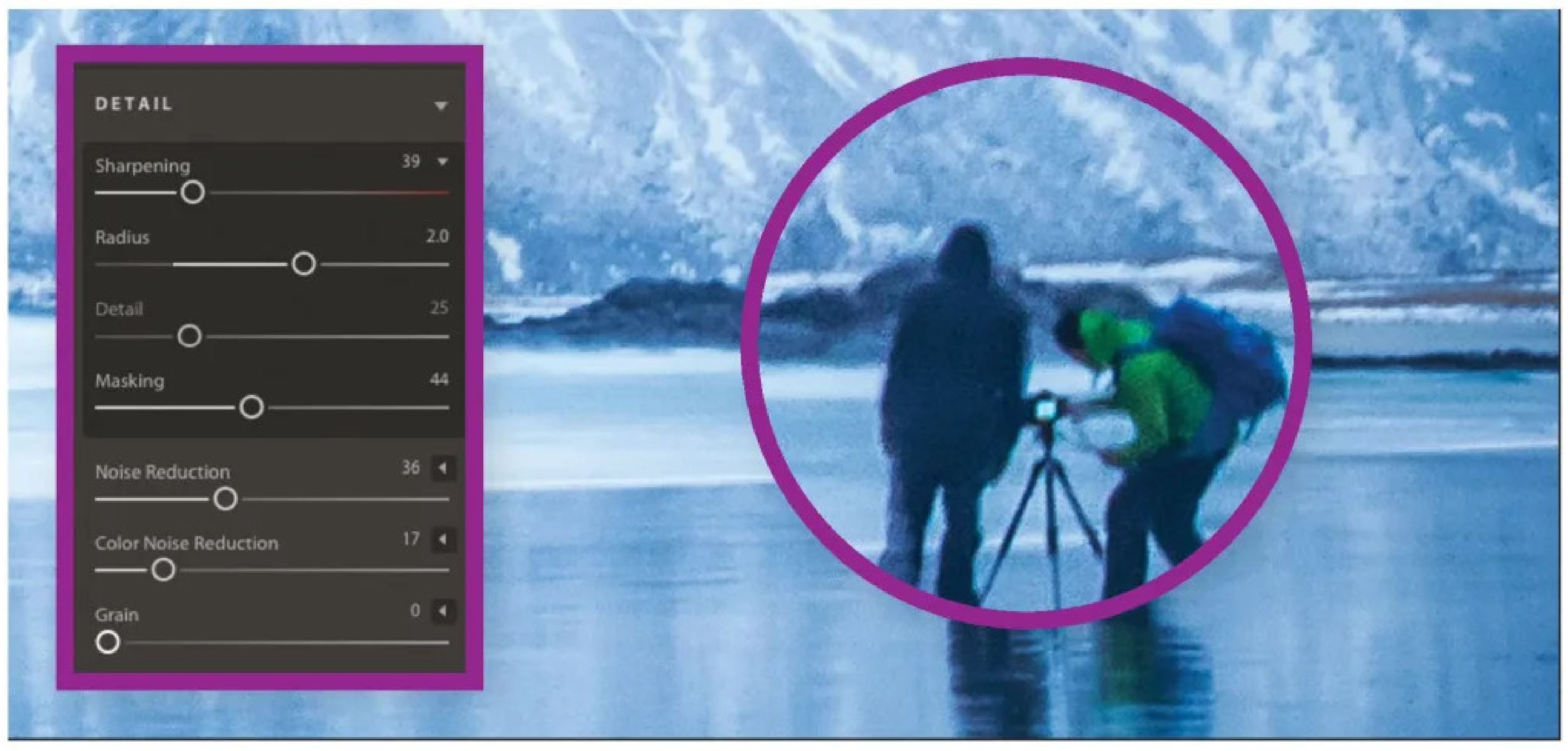


Clarity +30
Dehaze +25
Vignette −25
Feather 75
Midpoint 30
Roundness −50
Highlights 35

Sharpening 39
Radius 2.0
Detail 25
Masking 44
Noise Reduction 0
Color Noise Reduction 0

04 Detail panel

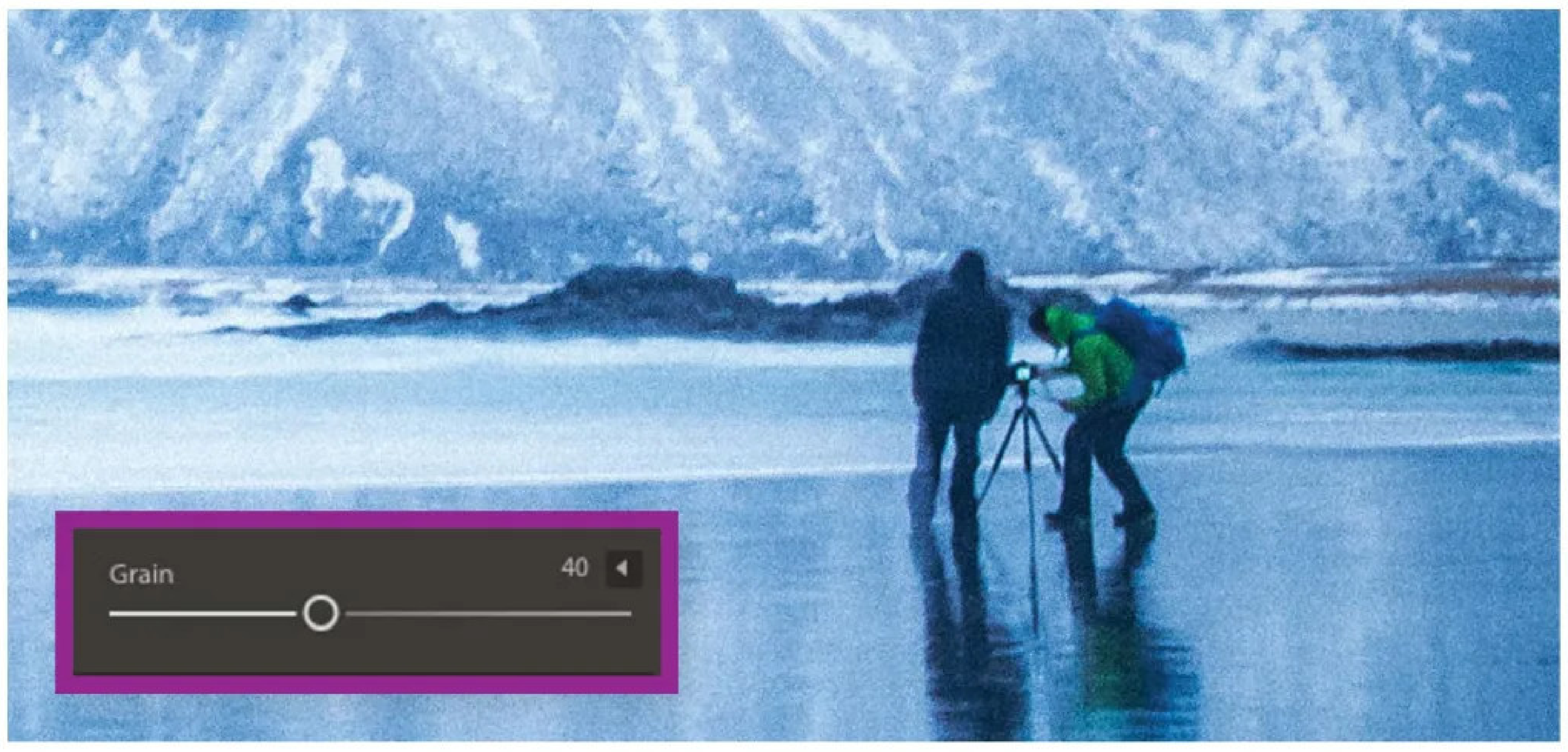
Here we can increase image sharpness, alter the sharpening radius size, control the Detail slider's accuracy, and alter the threshold of areas not affected with the Masking slider. We've increased Sharpening to define edges of the scene with a radius of 2 because most of the subject is far away. Detail remains at default value, but Masking increases to 44.



Sharpening 39
Radius 2.0
Detail 25
Masking 44
Noise Reduction 36
Color Noise Reduction 17
Grain 0

05 Noise reduction

After sharpening an image, we often find noise has been introduced to the shot. To alleviate this, increase the Noise Reduction slider; we've adjusted ours to 36. Color Noise Reduction will help tone down the colour noise usually more apparent in JPEG rather than Raw, but we found a little here so increased it to 17. Be careful: you can overuse the tool, resulting in parts looking blurry.



Grain 40

06 Grain

After reducing noise an image can often look crystallized or glassy. At this point it's worth adding some noise, or, as the slider is named, Grain. It may sound crazy to add noise after removing it, but the Grain slider introduces a uniform and controlled grain, which looks much nicer than the original noise we removed, and you can vary the amount by as much, or as little as you want.

Watermark your images

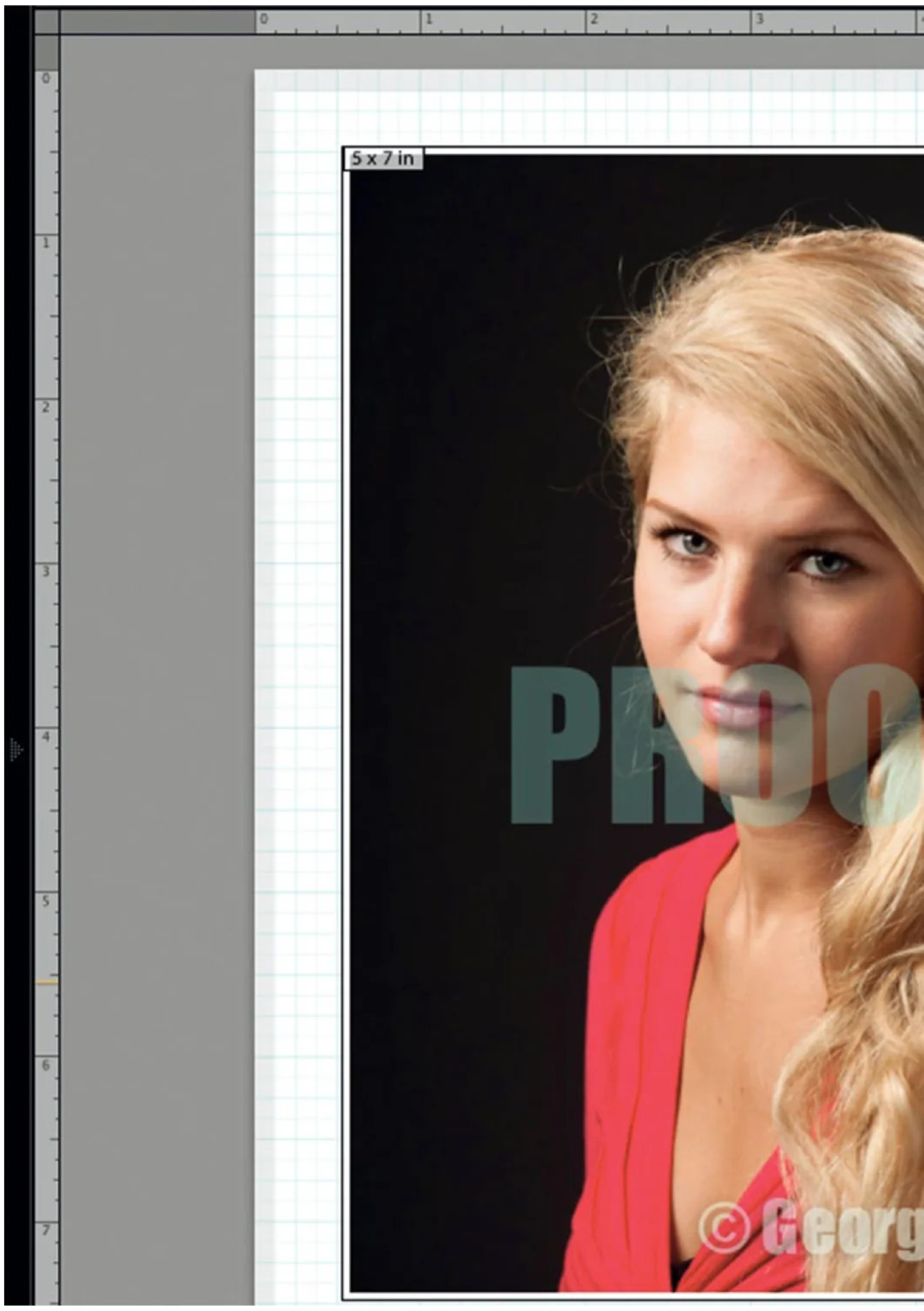
Learn how to use the Print module's Page panel to protect your photos by adding watermarks or an Identity Plate to each image

Online galleries and portfolios provide quick and easy ways to share your images, but your photos are vulnerable to theft on the Internet. By shooting a photo you automatically own its copyright, but once it's been downloaded and reposted to other sites, prospective clients won't necessarily know who the photograph belongs to. This might result in a photo being used without anyone crediting or paying you.

However, you can digitally assign your copyright and contact details to a photo's metadata, so that this important information will always be attached to the image. This helps potential clients contact you if they want to use the image in any way. But while embedding copyright info into metadata is useful, people can still ignore it and make an unauthorized print of your image.

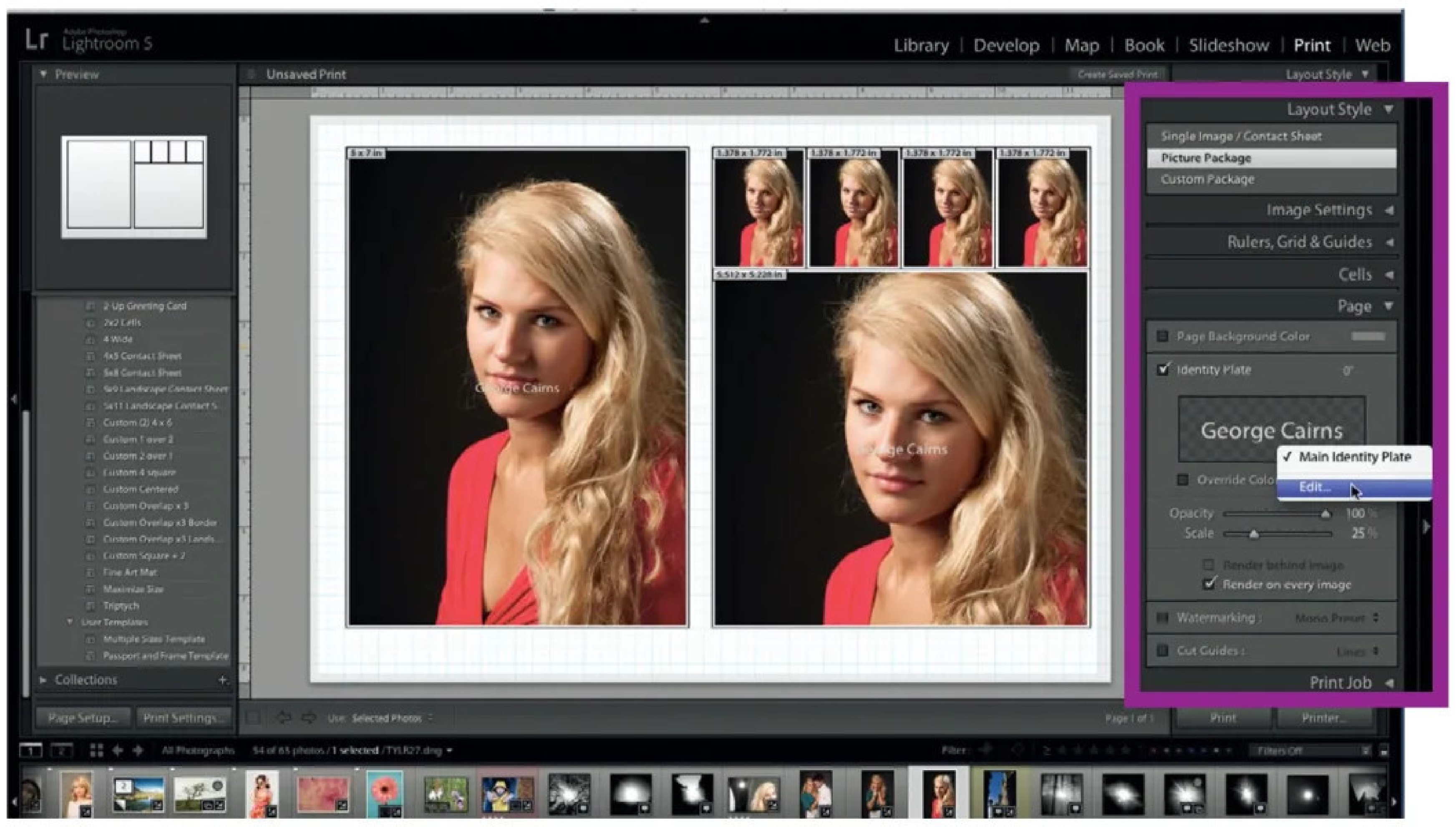
To protect your photos more effectively, Lightroom's Print module has a handy Page panel that enables you to add visual watermarks and 'Identity Plates' to each image. You can create watermarks by adding your own graphic-based logos or by customizing existing text.

The trick to adding a watermark to an image is to create informative text without obscuring the colours and composition of your image.


5 x 7 in
PROO
© Georg

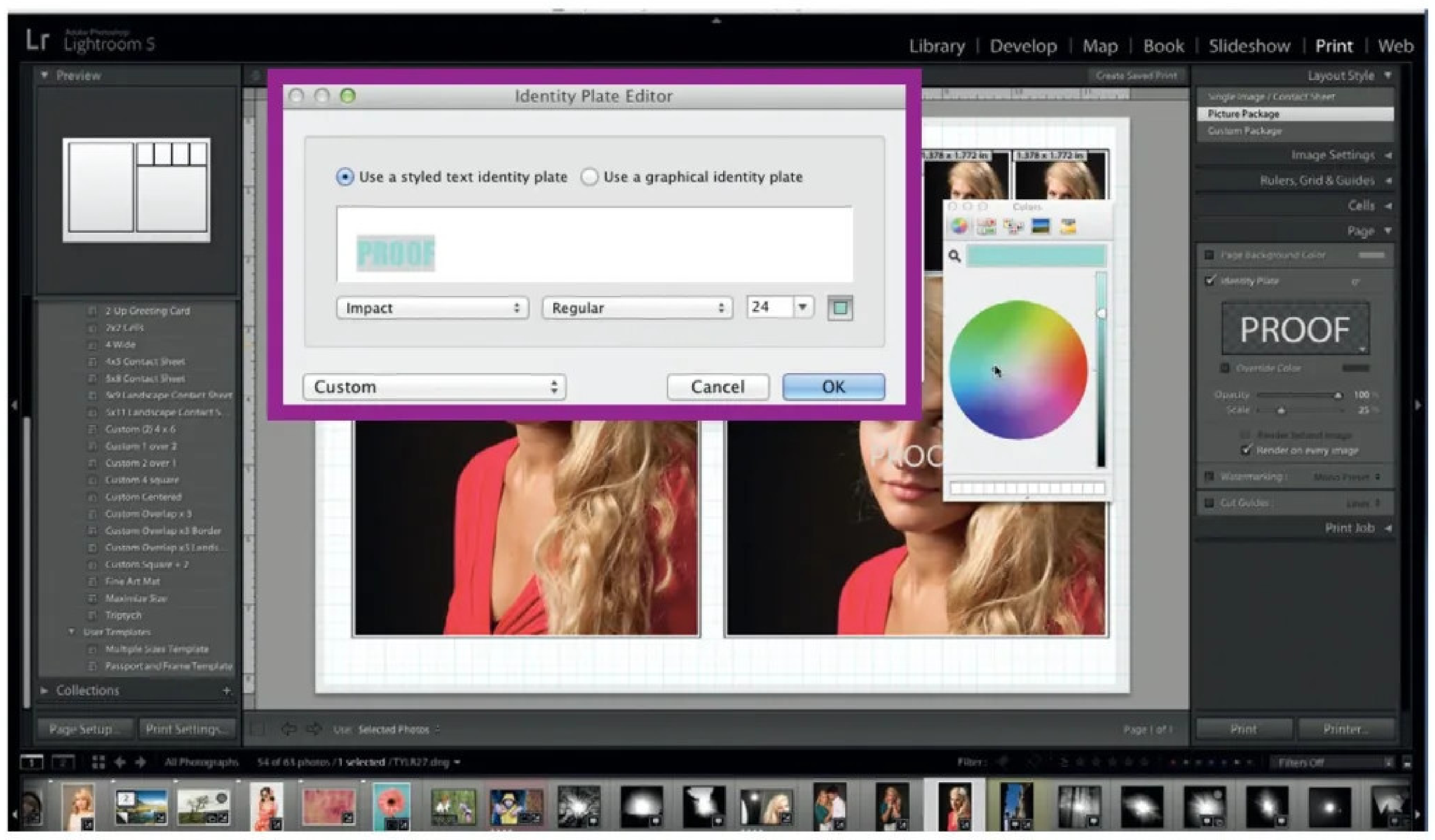
> "While embedding copyright info into metadata is useful, people can still ignore it"

Step by step Protect your pictures…


Lightroom 5
Library | Develop | Map | Book | Slideshow | Print | Web
Layout Style
Single Image / Contact Sheet
Picture Package
Custom Package
Image Settings
Rulers, Grid & Guides
Cells
Page
Page Background Color
Identity Plate
George Cairns
✓ Main Identity Plate
Edit...
Render on every image
Watermarking
Print Job

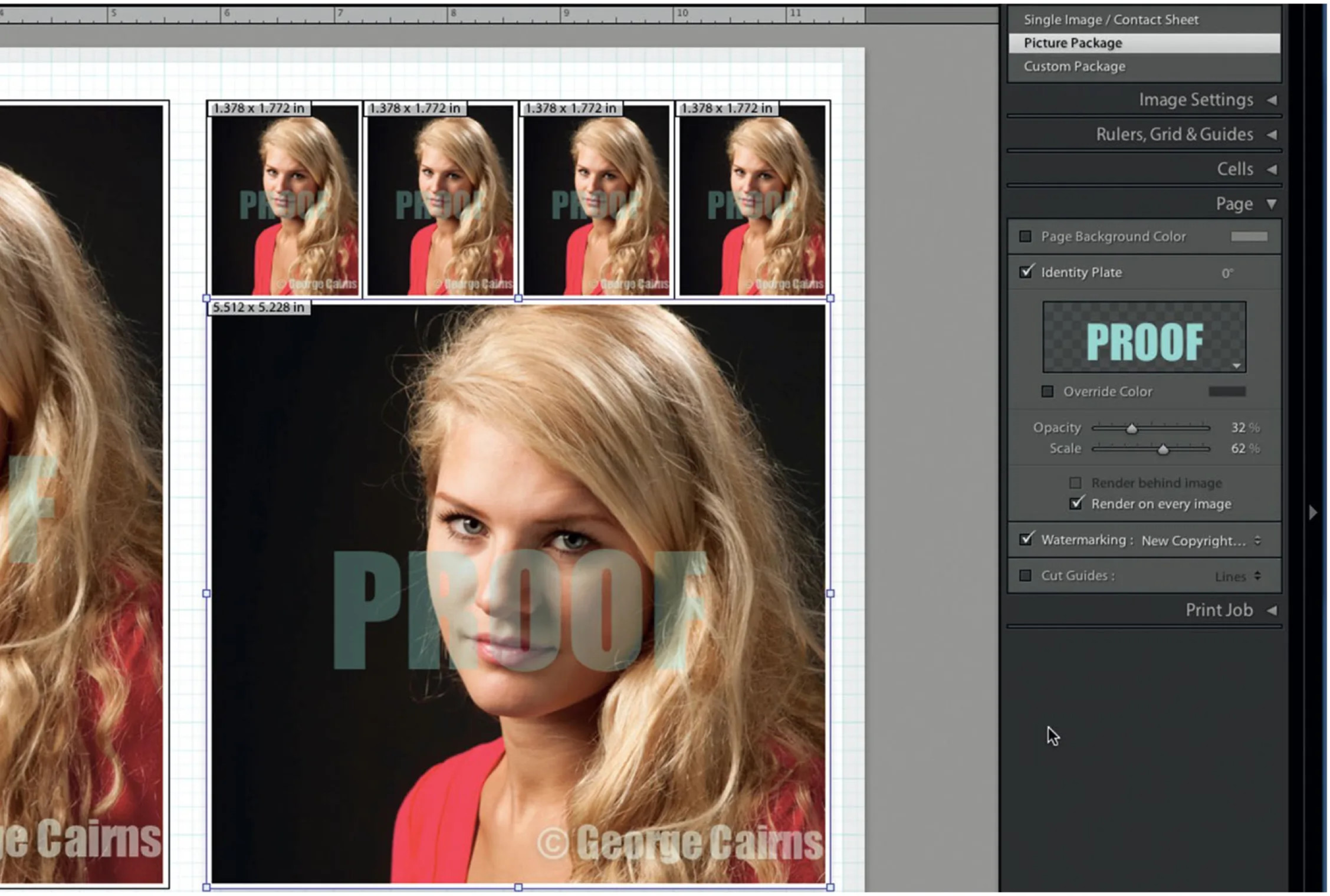
01 Add an Identity Plate

We'll start by adding watermarks to the photos in a custom layout. Toggle open the Page panel on the right. Click the Identity Plate box. Tick Render on every image. Click the preview window and then Edit to customise the contents.


Identity Plate Editor
● Use a styled text identity plate ○ Use a graphical identity plate
PROOF
Impact
Regular
24
Custom
Cancel
OK
PROOF

02 Customise the text

You can click the 'Use a graphical Identity Plate' button to import a logo file. This option supports transparent pixels. Alternatively, tick the Styled Text option. Type some text, such as 'PROOF'. Choose a font from the menu. You can also pick a colour for your text. Click OK.


1.378 x 1.772 in
5.512 x 5.228 in
PROOF
© George Cairns
Single Image / Contact Sheet
Picture Package
Custom Package
Image Settings
Rulers, Grid & Guides
Cells
Page
Page Background Color
Identity Plate
Override Color
Render behind image
Render on every image
Cut Guides : Lines
Print Job

☐ Page Background Color

☑ Identity Plate 0°

Opacity 32 %

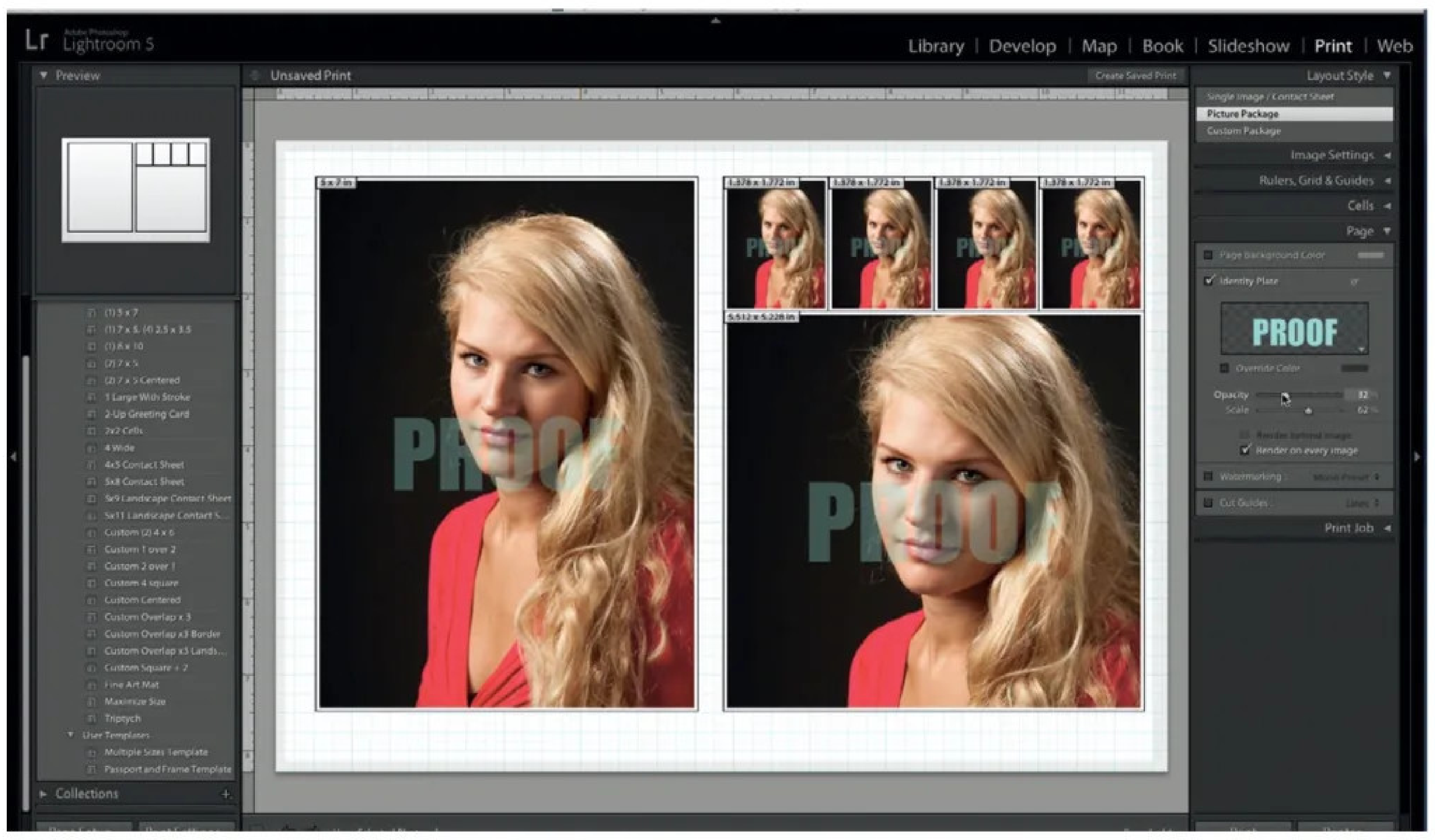
Scale 62 %

☐ Render behind image

☑ Render on every image

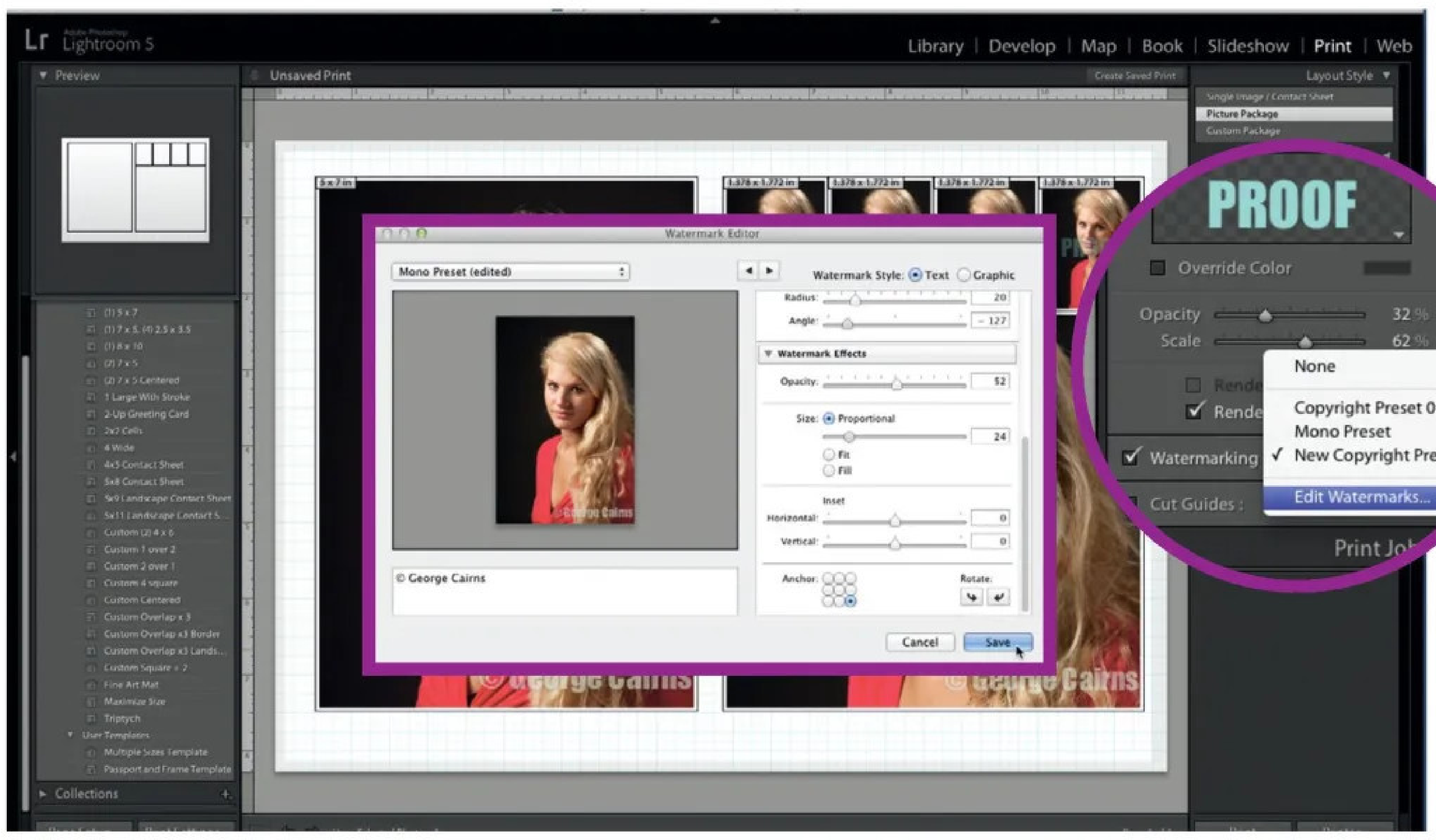
☑ Watermarking : New Copyright...

☐ Cut Guides : Lines


Lightroom 5
Library | Develop | Map | Book | Slideshow | Print | Web
PROOF

01 Fine-tune the text

Set the Page panel's Opacity slider to 32% to get a balance between being able to read the text and see the photo. Drag the Scale slider to 62% to enlarge the text so that it can't be removed with a crop. All the photos on the page are now safe to share.


Lightroom 5
Library | Develop | Map | Book | Slideshow | Print | Web
Watermark Editor
PROOF
Override Color
Opacity
Scale
None
Copyright Preset 01
Mono Preset
✓ New Copyright Preset
Edit Watermarks...
Watermarking
Cut Guides
Print Job
Cancel
Save

01 Add a watermark

Tick the Watermarking box. You can assign any copyright presets you have created previously. Alternatively, click Edit Watermark and type some text. Choose which corner you want it to appear in. Click Save to create a new preset.

Explore Photoshop's creative brush tips

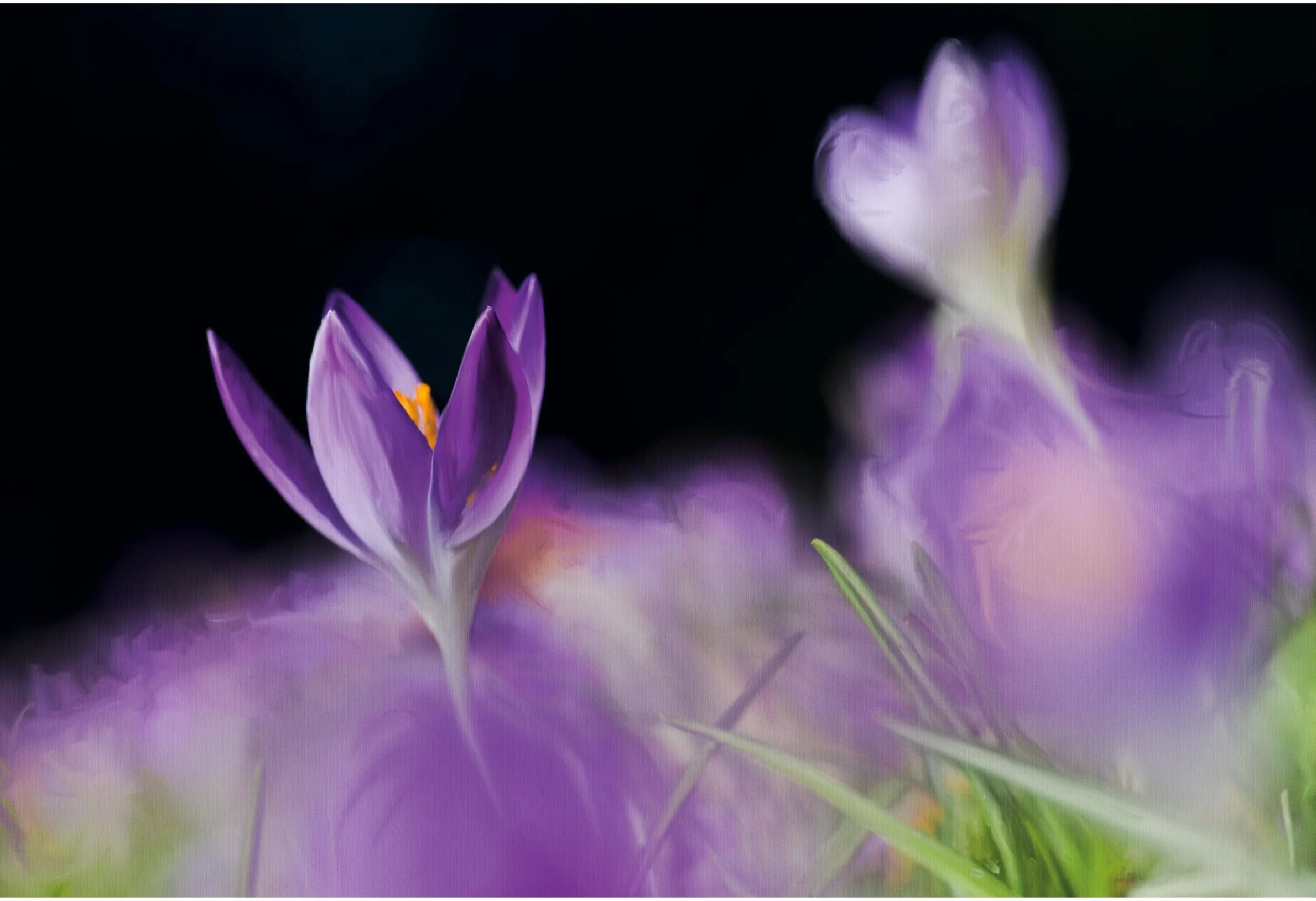
Enhance your creative projects with natural-looking brush strokes – learn to mimic real-world brushes, pencils, charcoal and other natural media

Many of Photoshop's tools are brush-based. By changing the size, softness and opacity of a brush-based tool, you can fine-tune the way it alters the pixels in an image. If you use a graphics tablet then you can use changes in stylus pressure to create lighter or darker strokes and work with more precision.

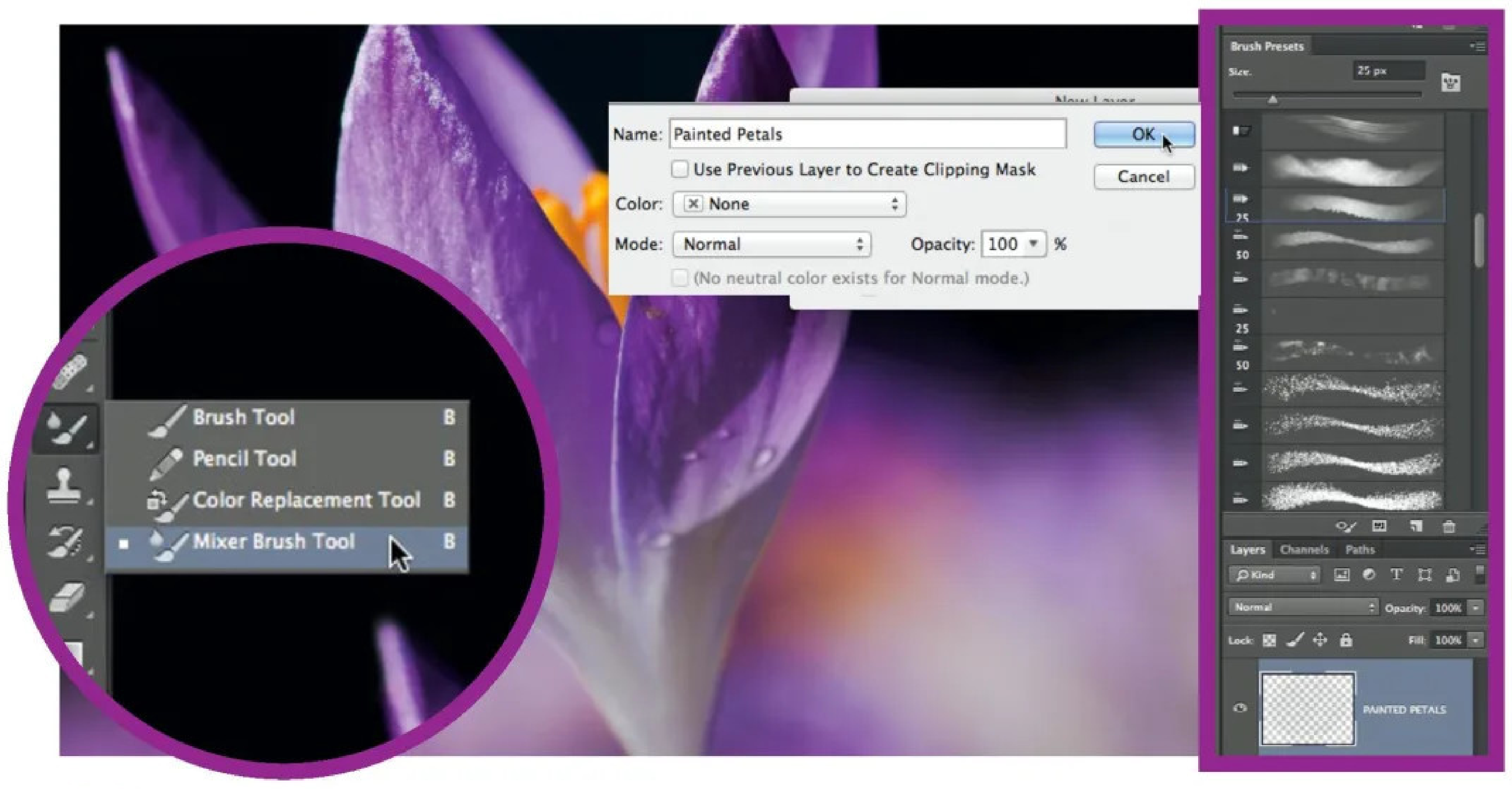
You can also use brushes to mimic natural media. Select the Brush tool, then click the Brush Preset picker and scroll down to find more creative shapes, such as Chalk, which produces a grainy texture. You'll also find creative brush tips, such as Leaves, which scatters random leaf shapes. By clicking the Brush panel icon you can modify the way a preset shape behaves, such as making the leaves scatter in less dense clumps.To make Photoshop's brush tips behave like their real-world counterparts, the Brush panel and Brush Preset picker offer a range of bristle-brush tips.

These deform as you paint, and leave bristle-like strokes on the image. By combining a bristle-brush tip with a tool, such as the Mixer brush, you can turn a photo into a painting, as you'll see in the tutorial across the page.

But first, we'll demonstrate how the Brush panel changes a bristle-brush tip's attributes, so you can produce more realistic-looking strokes.



Step by step Imitate real-world brushes


Brush Tool B
Pencil Tool B
Color Replacement Tool B
Mixer Brush Tool B
New Layer
OK
Cancel
Brush Presets
Layers Channels Paths
Painted Petals

Name: Painted Petals

☐ Use Previous Layer to Create Clipping Mask

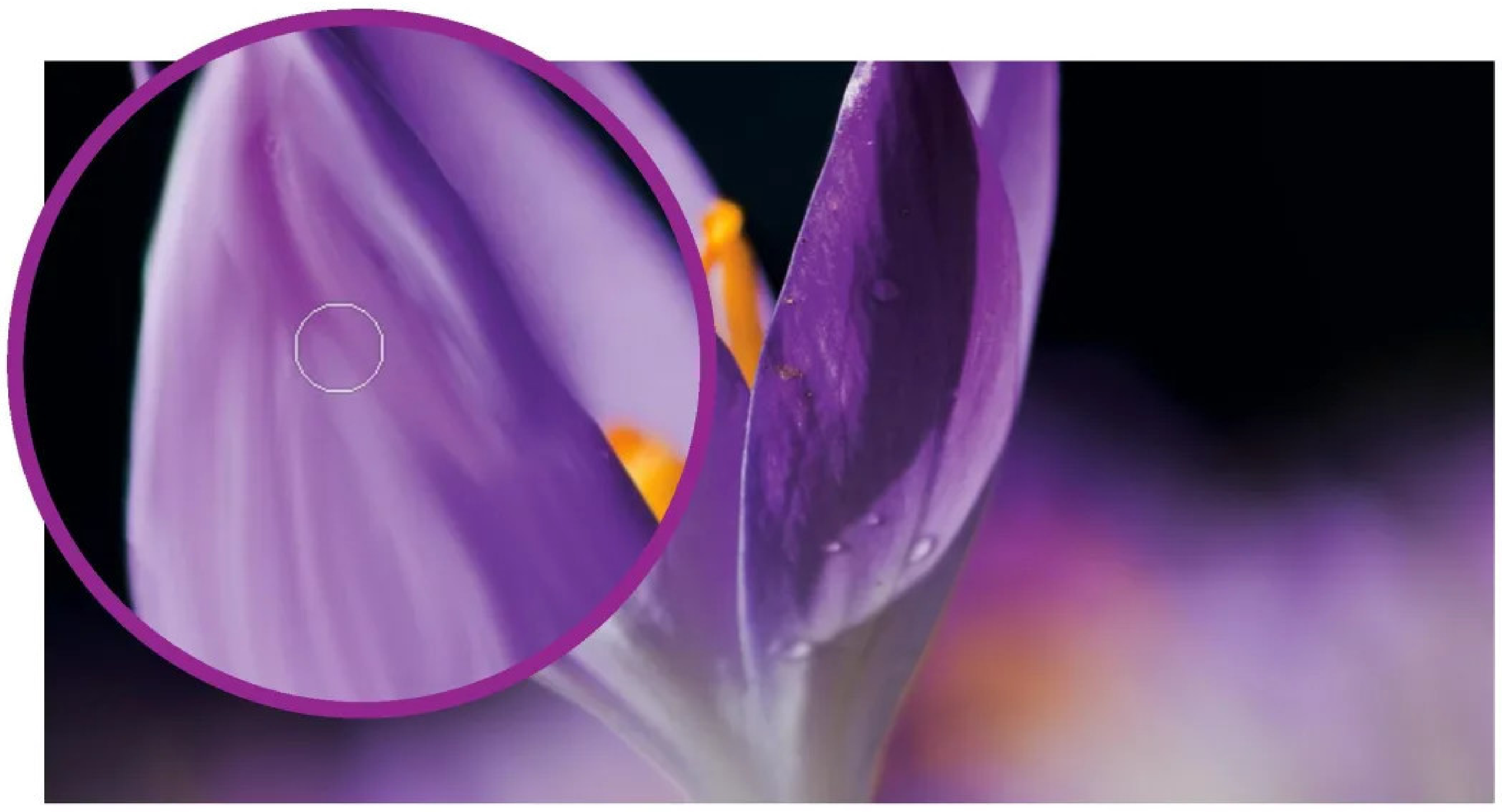
Color: None

Mode: Normal Opacity: 100 %

☐ (No neutral color exists for Normal mode.)

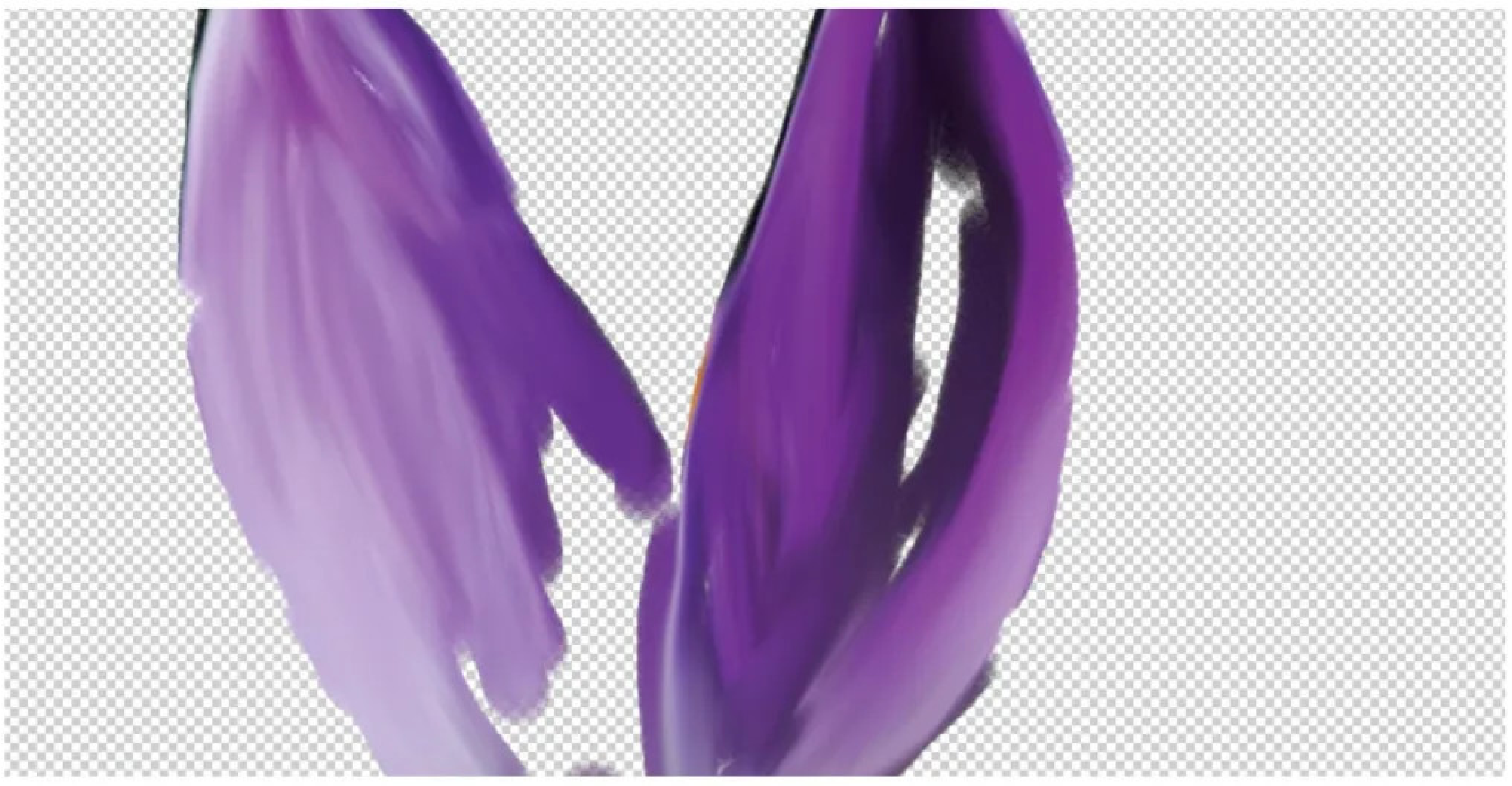
01 Choose the Mixer brush

Open the start image. Go to Window>Workspace>Painting. Create a new layer and name it 'Painted Petals'. Hold the mouse button down over the Brush tool's compartment in the Tools panel and choose the Mixer brush. Select the Round Watercolor erodible tip.



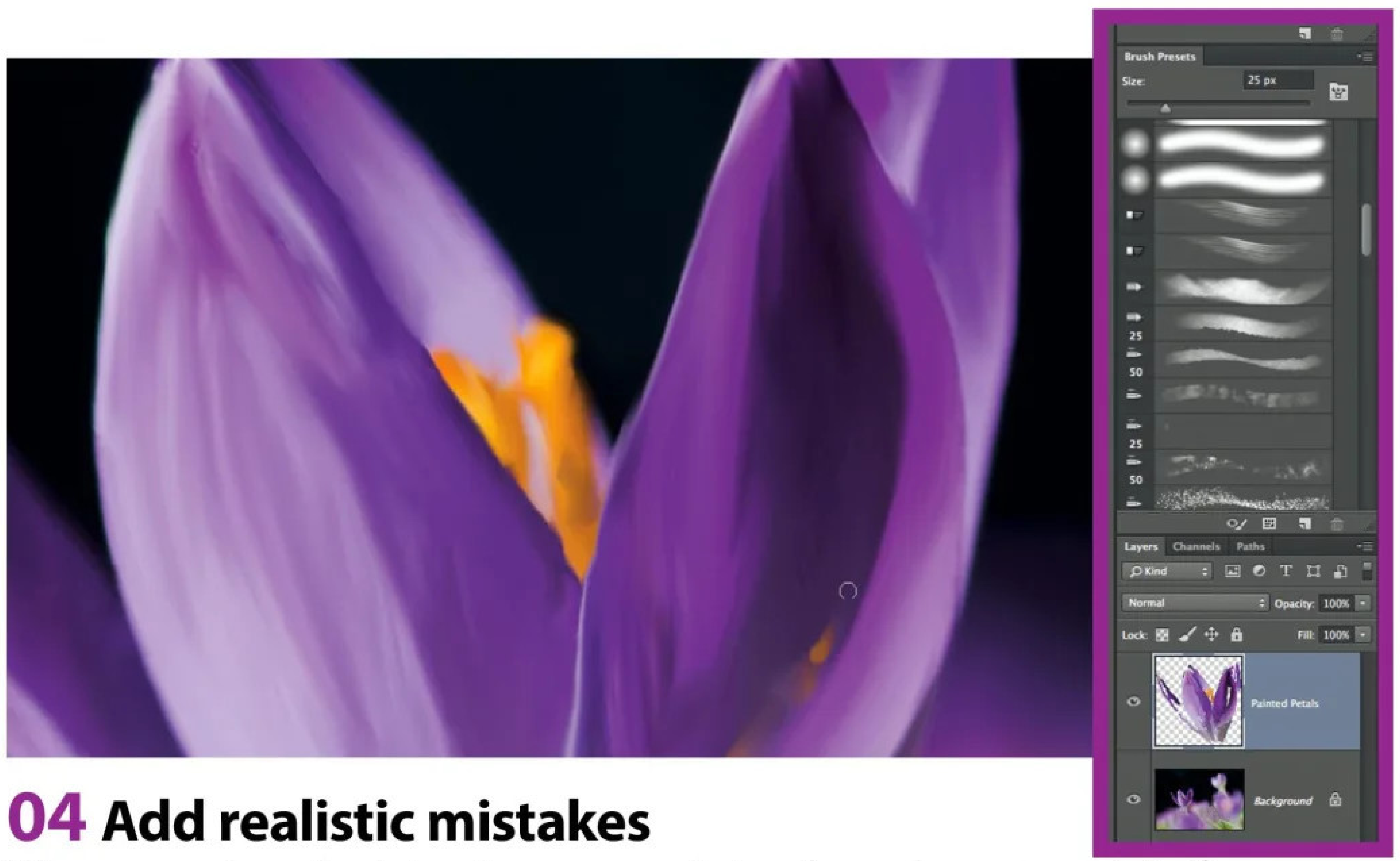
02 Paint and smear

Set the size to 90 pixels. In the Options bar, choose Very Wet, Heavy Mix. Tick Sample All Layers. Click the transparent 'Painted Petals' layer. Paint strokes that follow the curves. The Mixer brush samples colours from the image below and turns them into wet paint smears.



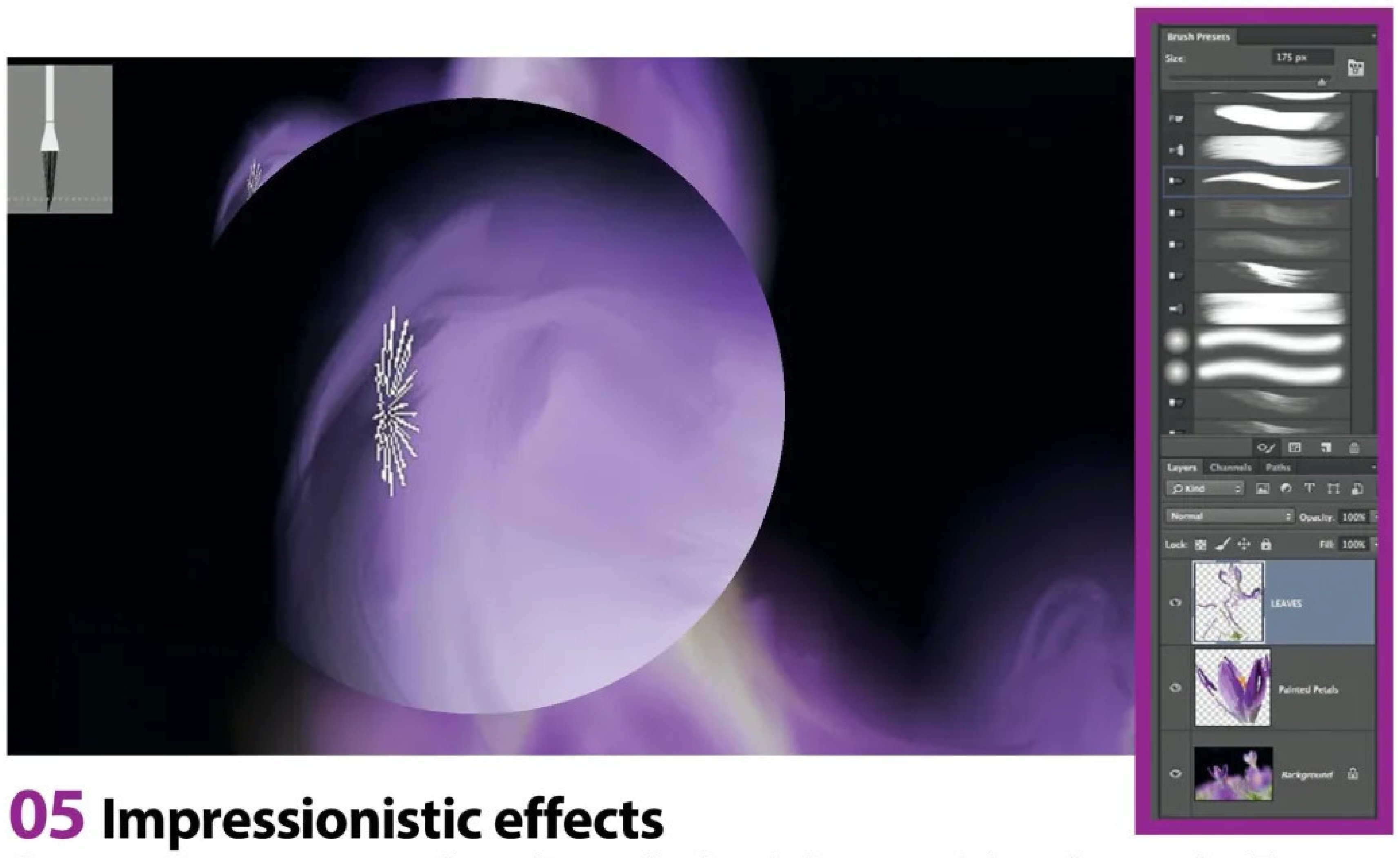
03 Check your progress

Click the 'Background' layer's eye icon to hide it. The Mixer brush's paint-like strokes create a simplified version of the petals, while preserving colour and tone. Make the 'Background' layer visible and continue using lots of short strokes to paint in the rest of the petals.


Brush Presets
Layers Channels Paths
Painted Petals
Background

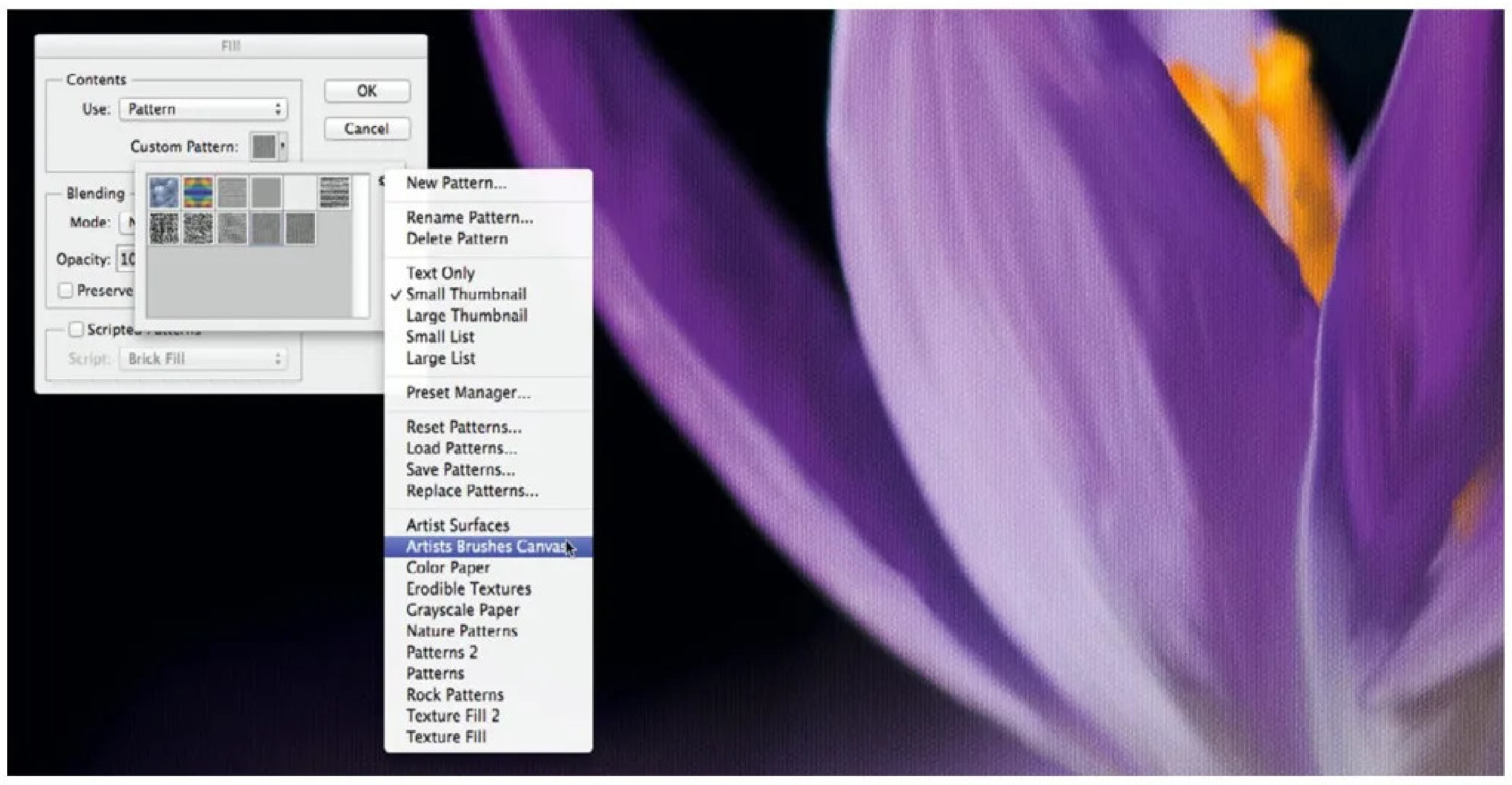
04 Add realistic mistakes

When you mix real paint, colours can pollute other colours, especially if you don't clean your brush regularly. To add authentic mixes of different colours, untick the Clean Brush icon in the Options bar. Now paint on the yellow stamen and then paint on the purple plant.


Brush Presets
Layers Channels Paths
LEAVES
Painted Petals
Background

05 Impressionistic effects

Create a new transparent layer. From the Brush Presets picker, choose the Flat Point Medium Stiff bristle-brush tip. Set the size to 50. Paint over the leaves to render them as rough-and-ready paint strokes. Create a new transparent layer and go to Edit>Fill.


Fill
OK
Cancel
New Pattern...
Rename Pattern...
Delete Pattern
Text Only
✓ Small Thumbnail
Large Thumbnail
Small List
Large List
Preset Manager...
Reset Patterns...
Load Patterns...
Save Patterns...
Replace Patterns...
Artist Surfaces
Artists Brushes Canvas
Color Paper
Erodible Textures
Grayscale Paper
Nature Patterns
Patterns 2
Patterns
Rock Patterns
Texture Fill 2
Texture Fill

Contents

Use: Pattern

Custom Pattern:

Blending

Script: Brick Fill

06 Add a canvas texture

Set the Contents menu to Pattern. Click the Custom Pattern window. Select the gear icon in the thumbnail window and choose Artists Brushes Canvas. Click Append. Choose Yankee Canvas. Click OK. Set the pattern layer's blend mode to Overlay and reduce Opacity to 13%

Turn a dull landscape into mono masterpiece

Transform your landscapes into beautiful black-and-white long exposures with simple Photoshop CC skills

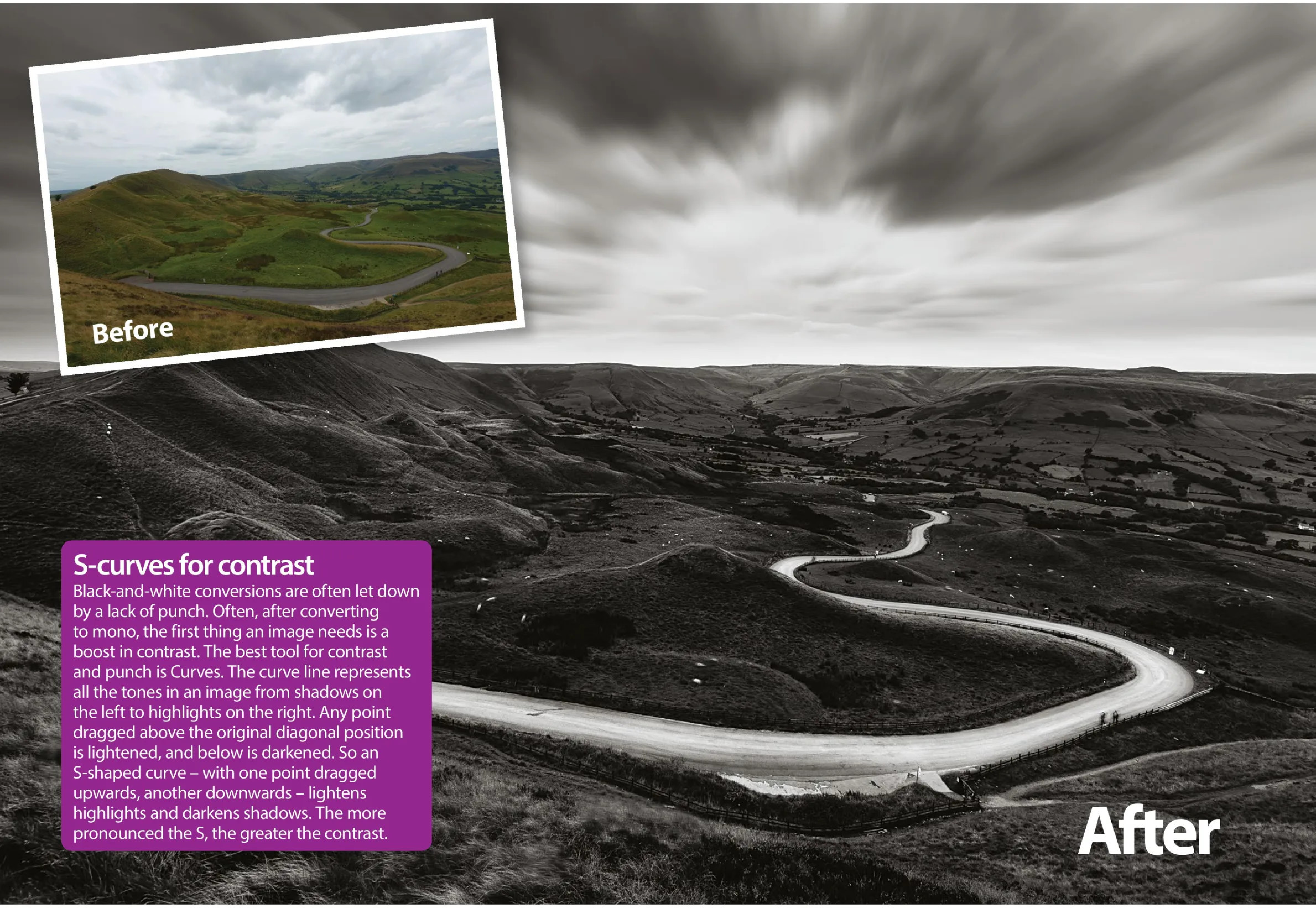
Quick tip

Hold Shift while dragging with Photoshop or Lightroom's Graduated Filter tool to keep the lines perfectly horizontal or vertical. Hold Shift while dragging with Photoshop or Lightroom's Graduated Filter tool to keep the lines perfectly horizontal or vertical.

Stretch an exposure to several seconds or more and the movement of clouds is captured as a beautiful silky blur. It's one of the landscape photographer's most potent visual devices, but it requires a tripod and a strong neutral density filter. If you don't have this gear to hand, you can recreate the look with simple Photoshop skills.

The long-exposure, blurred-clouds look goes well with a moody black-and-white treatment. So we'll begin by converting our image to monochrome. There are many ways to remove colour in Photoshop, but one of the most powerful is found within the Camera Raw plug-in. Here we can strip out the colour while controlling the brightness of eight colour ranges, so we can fine-tune the brightness of green grass, blues skies and any other colours in our scenes. Once done, we can pull out detail and enhance textures with Camera Raw's excellent local adjustment tools.

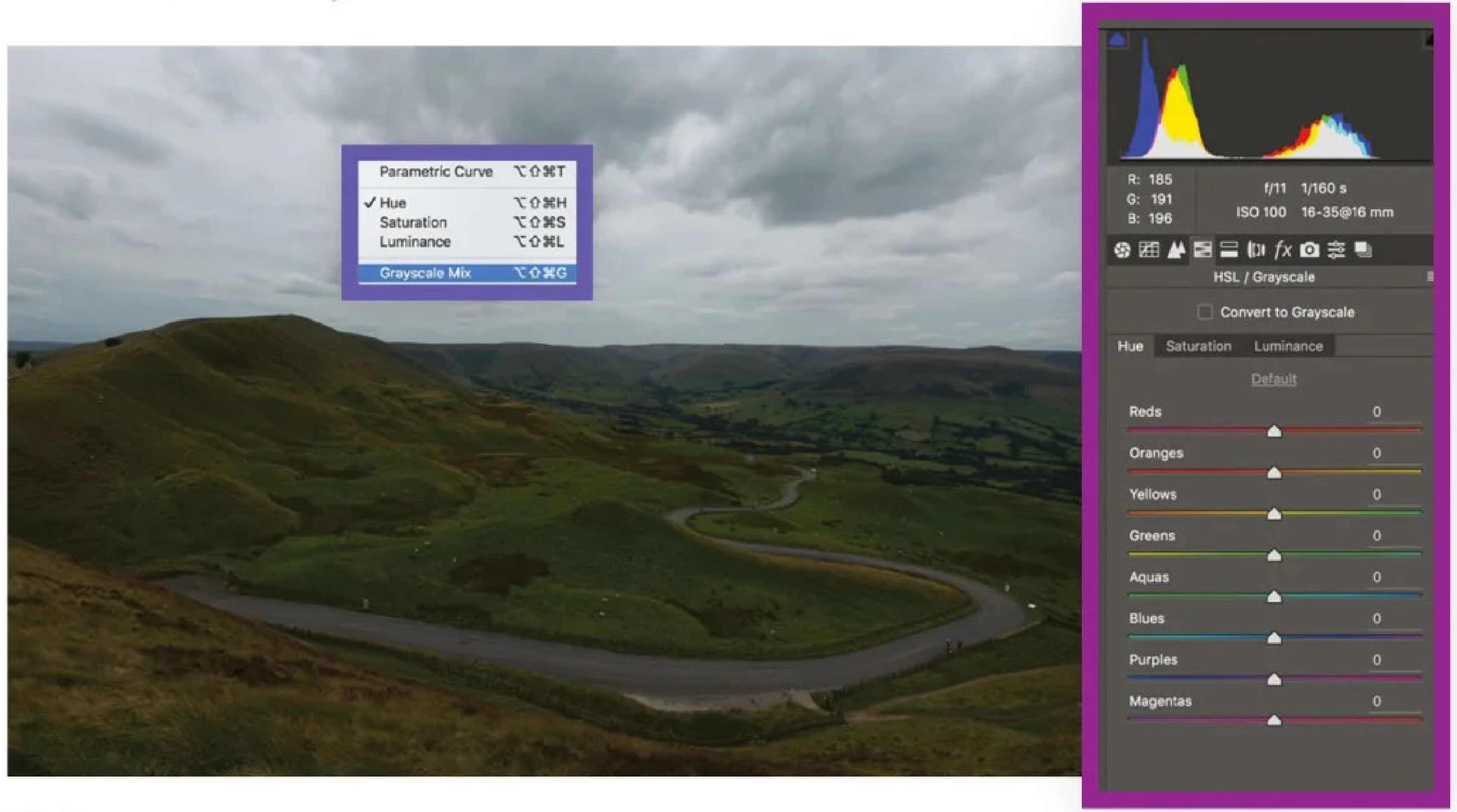
The Graduated Filter tool is a godsend that lets us darken overblown skies and pull out detail in clouds, which is exactly what you need for the moody monochrome look. Then we can bring our image into Photoshop, isolate the sky, and apply a simple blur filter to create that wonderful sense of movement in the clouds…



S-curves for contrast

Black-and-white conversions are often let down by a lack of punch. Often, after converting to mono, the first thing an image needs is a boost in contrast. The best tool for contrast and punch is Curves. The curve line represents all the tones in an image from shadows on the left to highlights on the right. Any point dragged above the original diagonal position is lightened, and below is darkened. So an S-shaped curve – with one point dragged upwards, another downwards – lightens highlights and darkens shadows. The more pronounced the S, the greater the contrast.

Step by step Get the moody long exposure look


Parametric Curve ⌥⇧⌘T
✓ Hue ⌥⇧⌘H
Saturation ⌥⇧⌘S
Luminance ⌥⇧⌘L
Grayscale Mix ⌥⇧⌘G
HSL / Grayscale
Hue
Saturation
Luminance
Default

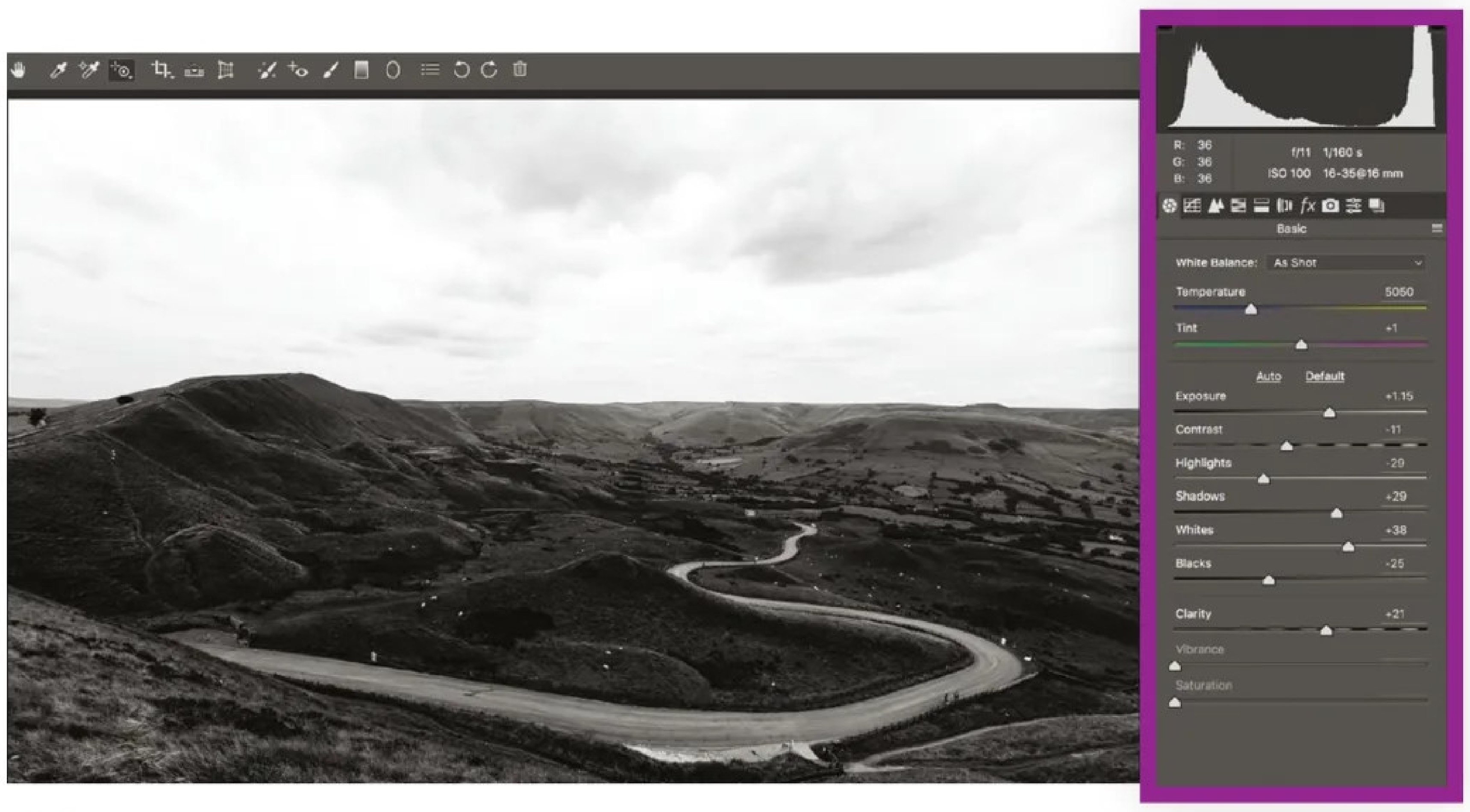
R: 185
G: 191
B: 196
f/11 1/160 s
ISO 100 16-35@16 mm

☐ Convert to Grayscale

Reds 0
Oranges 0
Yellows 0
Greens 0
Aquas 0
Blues 0
Purples 0
Magentas 0

01 Convert to mono

Navigate to the bw_before image in Adobe Bridge, right-click it and choose 'Open in Camera Raw'. Grab the Targeted Adjustment tool from the toolbar. Right-click in the image and choose 'Grayscale Mix'. Next, drag down over the grass to darken down the greens and yellows.

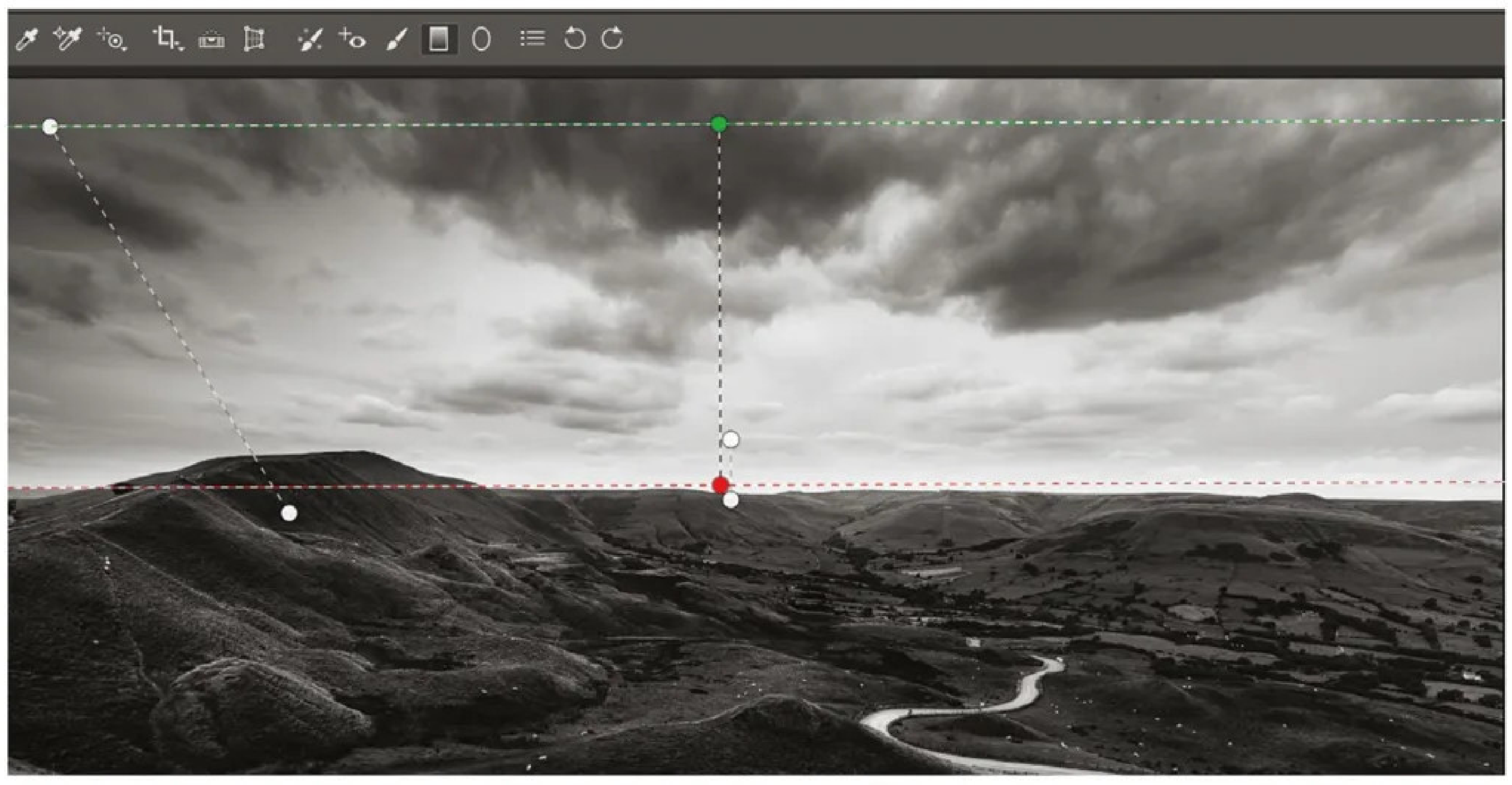

Basic
Auto
Default

R: 36
G: 36
B: 36
f/11 1/160 s
ISO 100 16-35@16 mm

White Balance: As Shot
Temperature 5050
Tint +1
Exposure +1.15
Contrast -11
Highlights -20
Shadows +29
Whites +38
Blacks -25
Clarity +21
Vibrance
Saturation

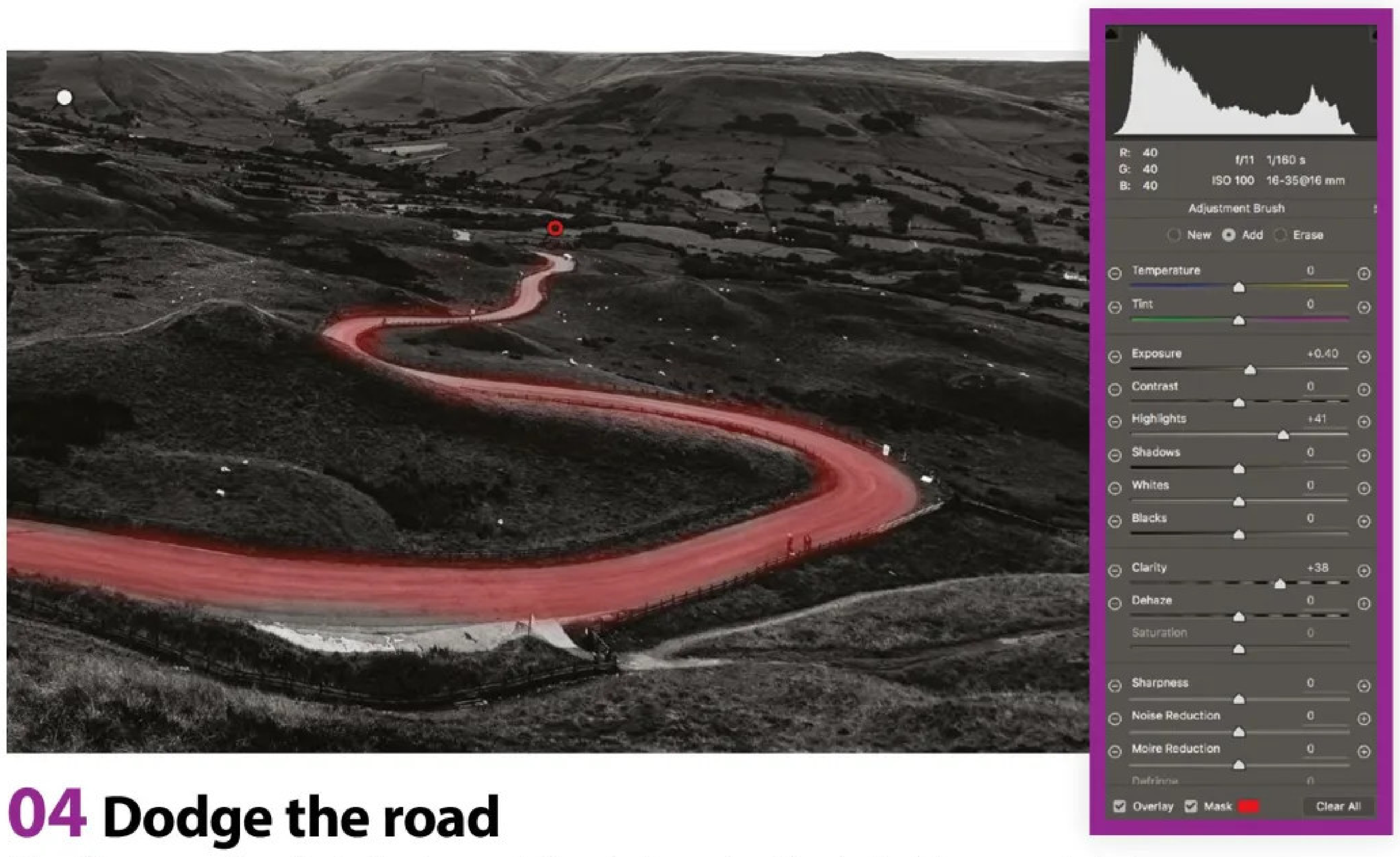
02 Add punch

Go to the Basic panel on the right (the first icon). Use the sliders to enhance the tones. Increase Exposure, knock down Highlights, lift the Shadows and up the Clarity. Next click the Tone Curve panel (second icon). Click Point Curve then create an S-shaped curve.



03 Darken the sky

Grab the Graduated Filter tool from the toolbar. Click the negative icon next to Exposure a couple of times to load the tool with a darkening effect. Hold Shift and drag down over the sky. Tweak the tonal sliders to adjust. Drag to add a second grad that darkens the top left corner.


Adjustment Brush
Clear All

R: 40
G: 40
B: 40
f/11 1/160 s
ISO 100 16-35@16 mm

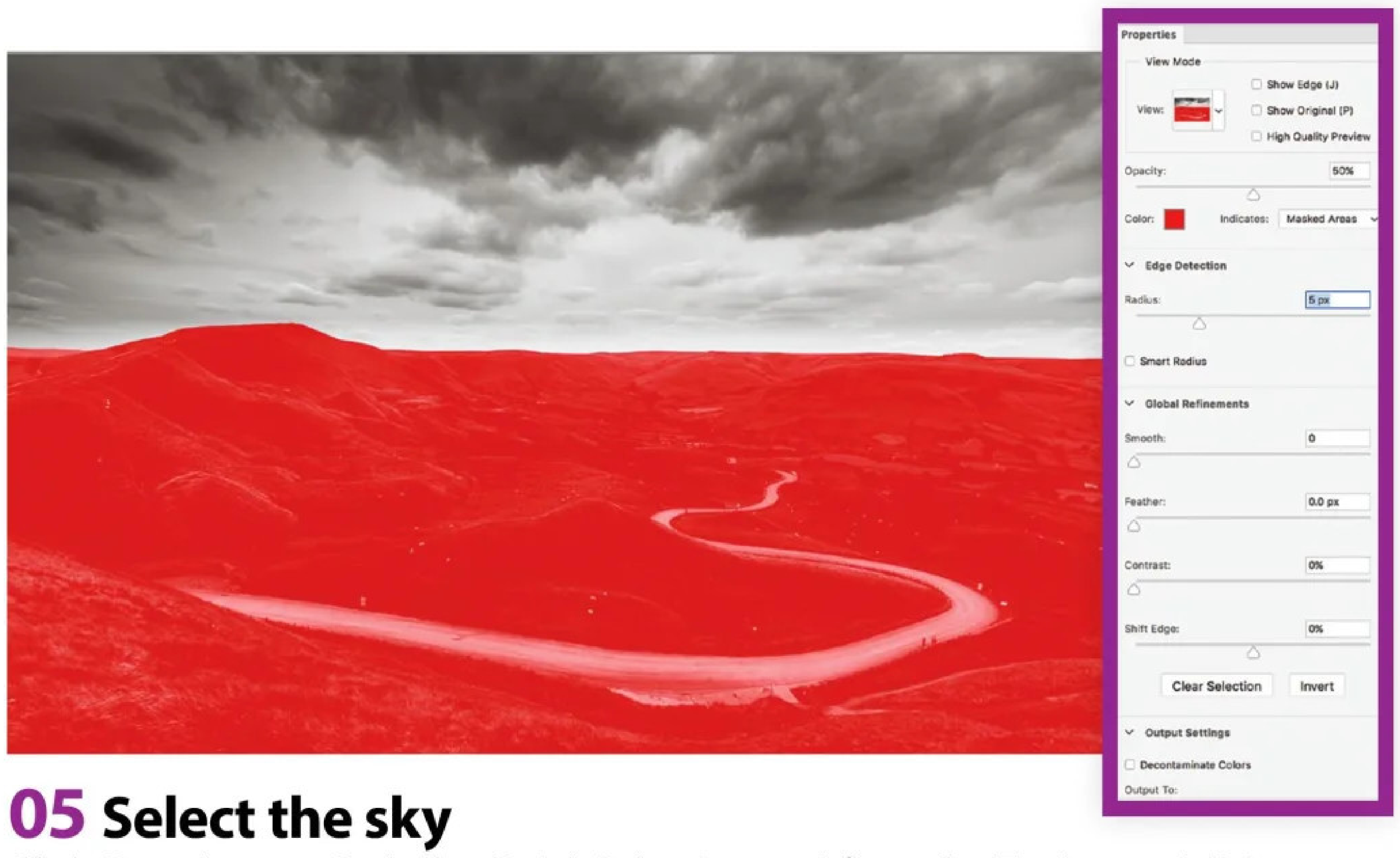
○ New ● Add ○ Erase

Temperature 0
Tint 0
Exposure +0.40
Contrast 0
Highlights +41
Shadows 0
Whites 0
Blacks 0
Clarity +38
Dehaze 0
Saturation 0
Sharpness 0
Noise Reduction 0
Moire Reduction 0
Defringe 0

☑ Overlay ☑ Mask

04 Dodge the road

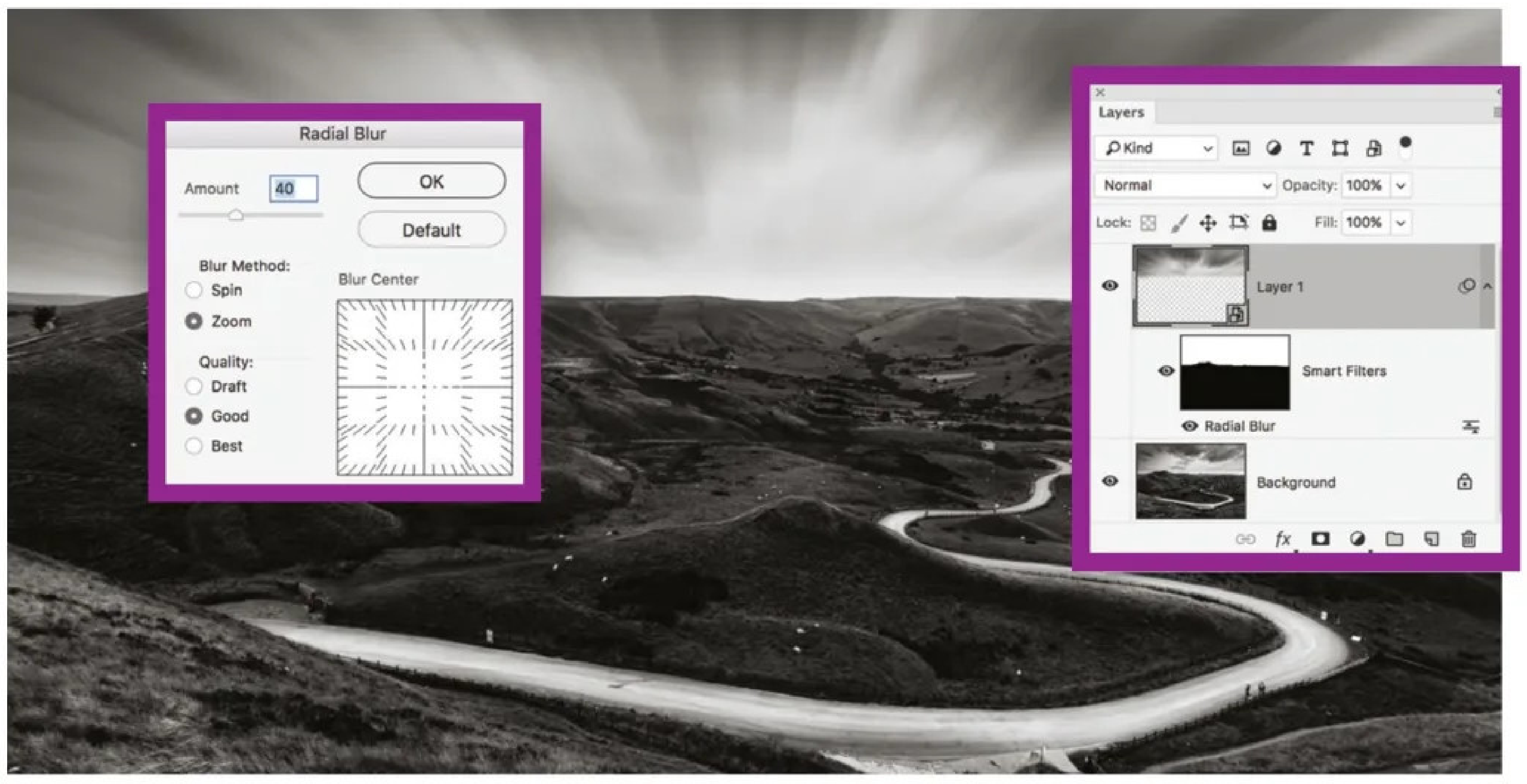
Use Camera Raw's Adjustment Brush to selectively lighten and darken areas ('dodge and burn'). Grab the brush from the toolbar. Load it with positive exposure and paint along the road to lift it slightly. Hit N for a new adjustment, dial in 'Dehaze', then paint over the hills.


Properties
View Mode
View:
Edge Detection
Global Refinements
Clear Selection
Invert
Output Settings

☐ Show Edge (J)
☐ Show Original (P)
☐ High Quality Preview
Opacity: 50%
Color: Indicates: Masked Areas
Radius: 5 px
☐ Smart Radius
Smooth: 0
Feather: 0.0 px
Contrast: 0%
Shift Edge: 0%
☐ Decontaminate Colors
Output To:

05 Select the sky

Click Open Image. Grab the Quick Selection tool from the Tools panel. Paint over the sky. Go to Select>Select and Mask and improve the selection edge. Increase Radius then paint over any tricky areas with the Refine Radius tool. Choose Output to: Selection, then hit OK.


Radial Blur
OK
Default
Blur Center
Layers
Kind
Lock:
Layer 1
Smart Filters
Radial Blur
Background

Amount 40
Blur Method:
○ Spin
● Zoom
Quality:
○ Draft
● Good
○ Best

Normal Opacity: 100%
Fill: 100%

06 Blur the clouds

Hit Cmd/Ctrl+J to copy to a new layer. Right-click the layer and 'Convert to Smart Object' then hold Cmd/Ctrl and click the layer thumbnail to load a selection. Go to Filter>Blur>Radial Blur, check Zoom, adjust amount of blur and centre point. Hit OK. Tweak using 'Radial Blur'.

Sharpen your skills

Learn how to apply creative sharpening in Photoshop CC with the wonderful High Pass technique and stay sharp where it matters

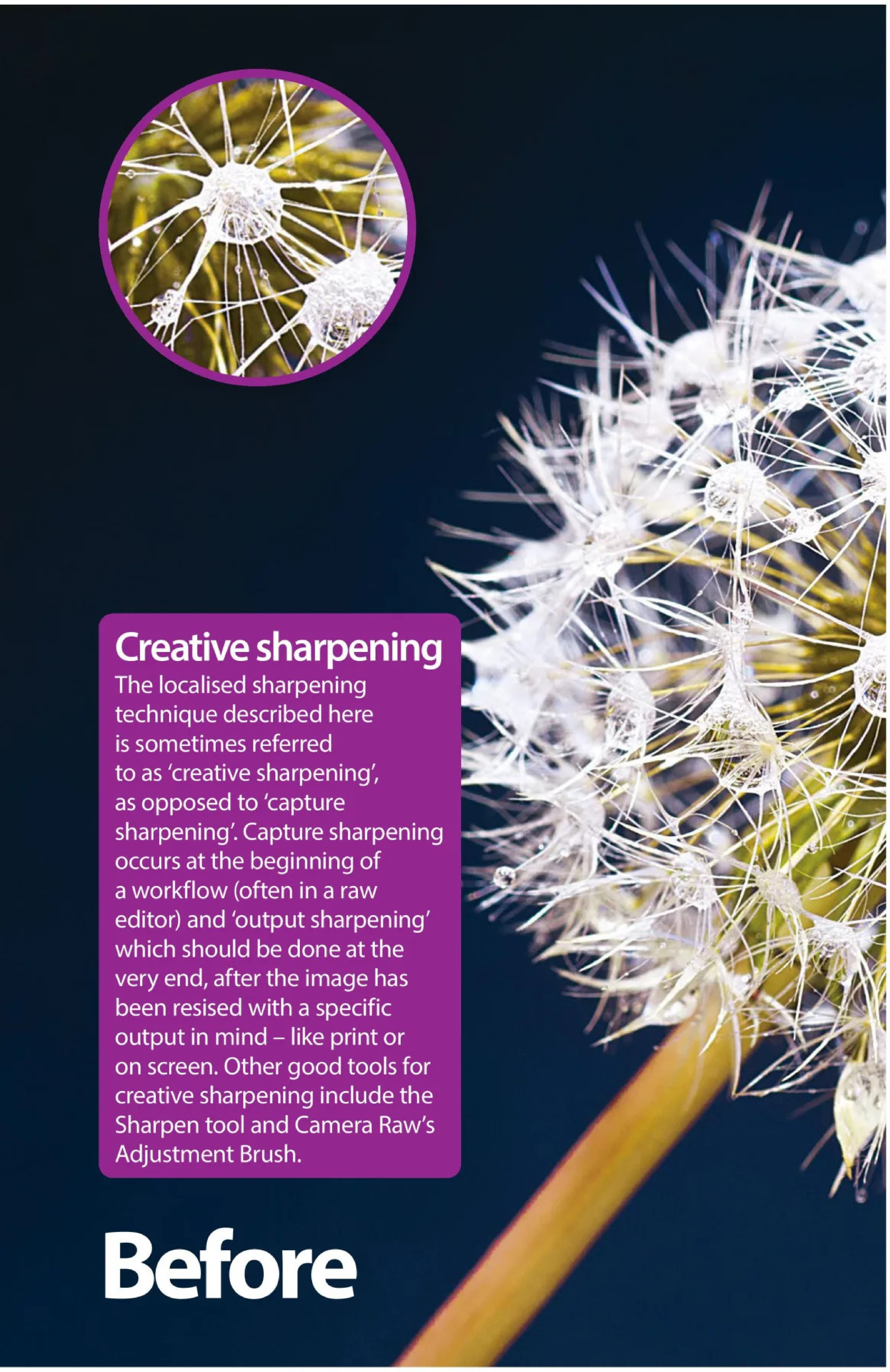
There are plenty of techniques for sharpening your photos, but few are as effective as High Pass sharpening. This method makes use of Photoshop's High Pass Filter, which separates an image into high frequency and low frequency detail. It effectively allows us to target the edges in an image – where light pixels meet darker pixels and apply contrast to them, resulting in crisper and sharper details.

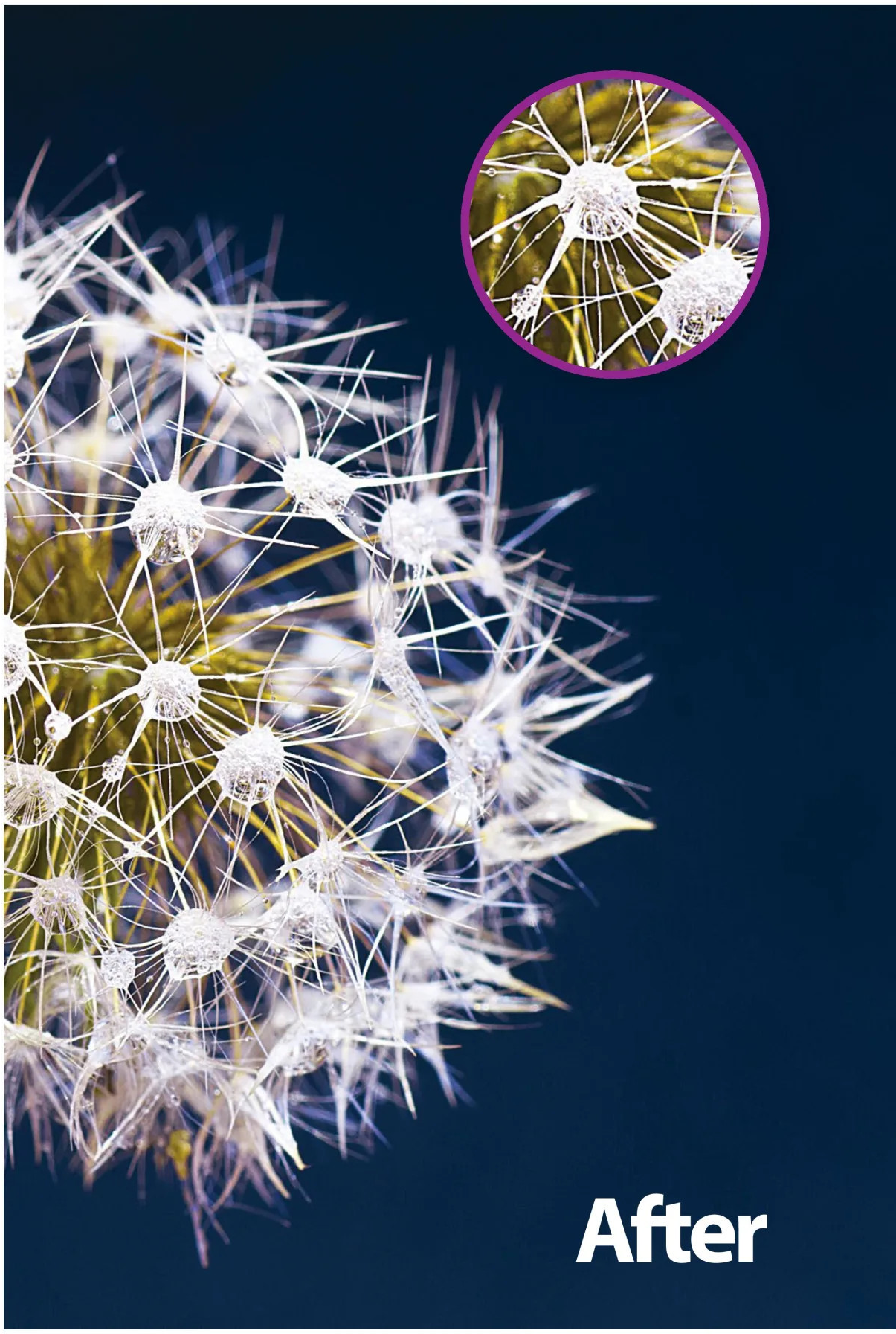
The High Pass technique is especially suitable for localised sharpening of specific areas of an image. If you think about it, when an image has out-of-focus, detail-less areas (as is often the case with macro photos) there's really no need to apply universal sharpening to these areas, as all we end up doing is amplifying the image noise – not ideal at all.

So for certain images like this it's better to selectively sharpen the parts that matter most. To help us do this, we can use a neat trick involving the 'Focus Area' command. This is a useful tool that automatically selects areas of an image that are in-focus – incredibly useful. Normally it's used to isolate the subject for a quick cut-out, but here we can put the command to use seeking out the detail-rich areas of our image in order to sharpen them. This basically helps us keep everything else lovely and soft where it matters.

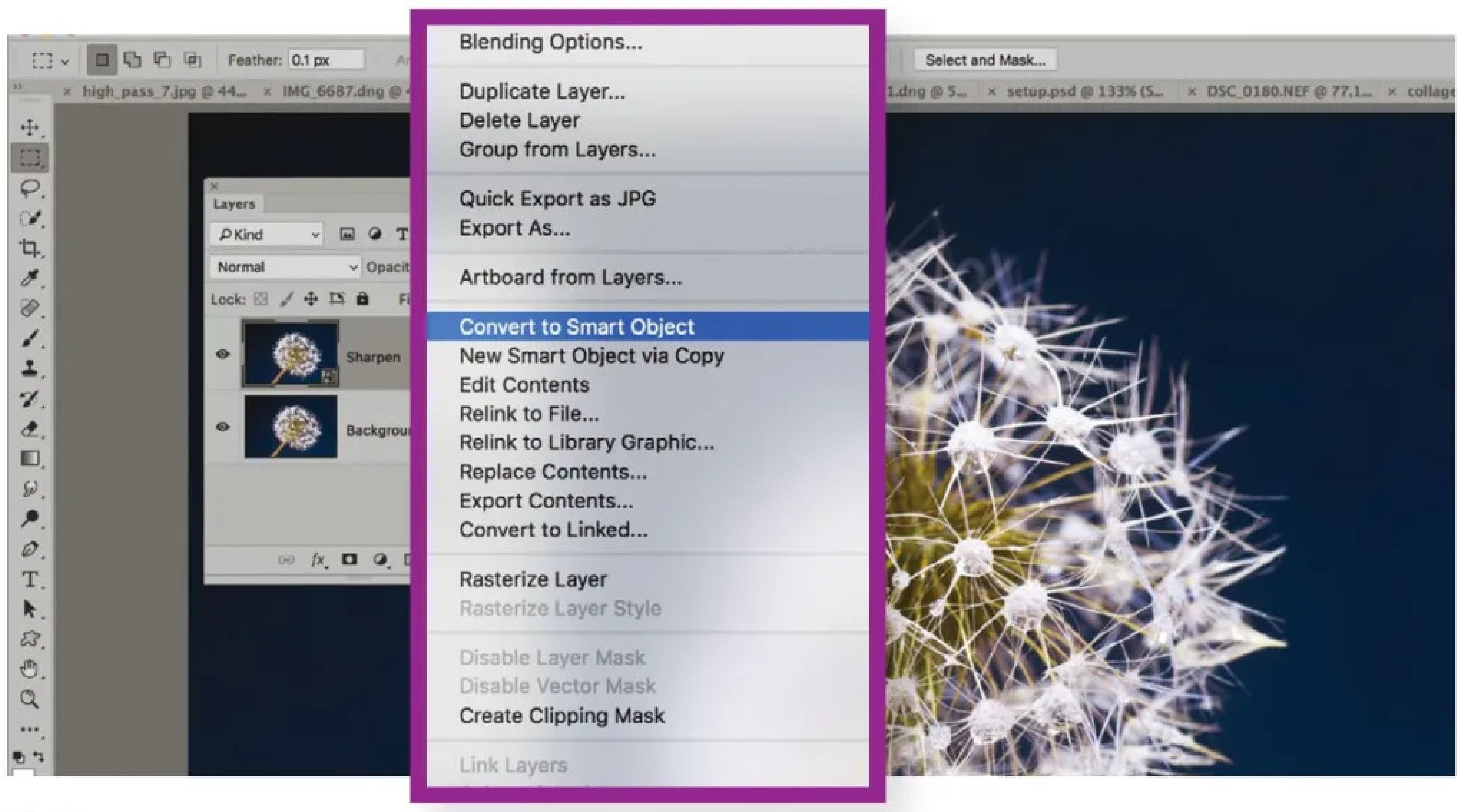
Creative sharpening

The localised sharpening technique described here is sometimes referred to as 'creative sharpening', as opposed to 'capture sharpening'. Capture sharpening occurs at the beginning of a workflow (often in a raw editor) and 'output sharpening' which should be done at the very end, after the image has been resised with a specific output in mind – like print or on screen. Other good tools for creative sharpening include the Sharpen tool and Camera Raw's Adjustment Brush.


Before

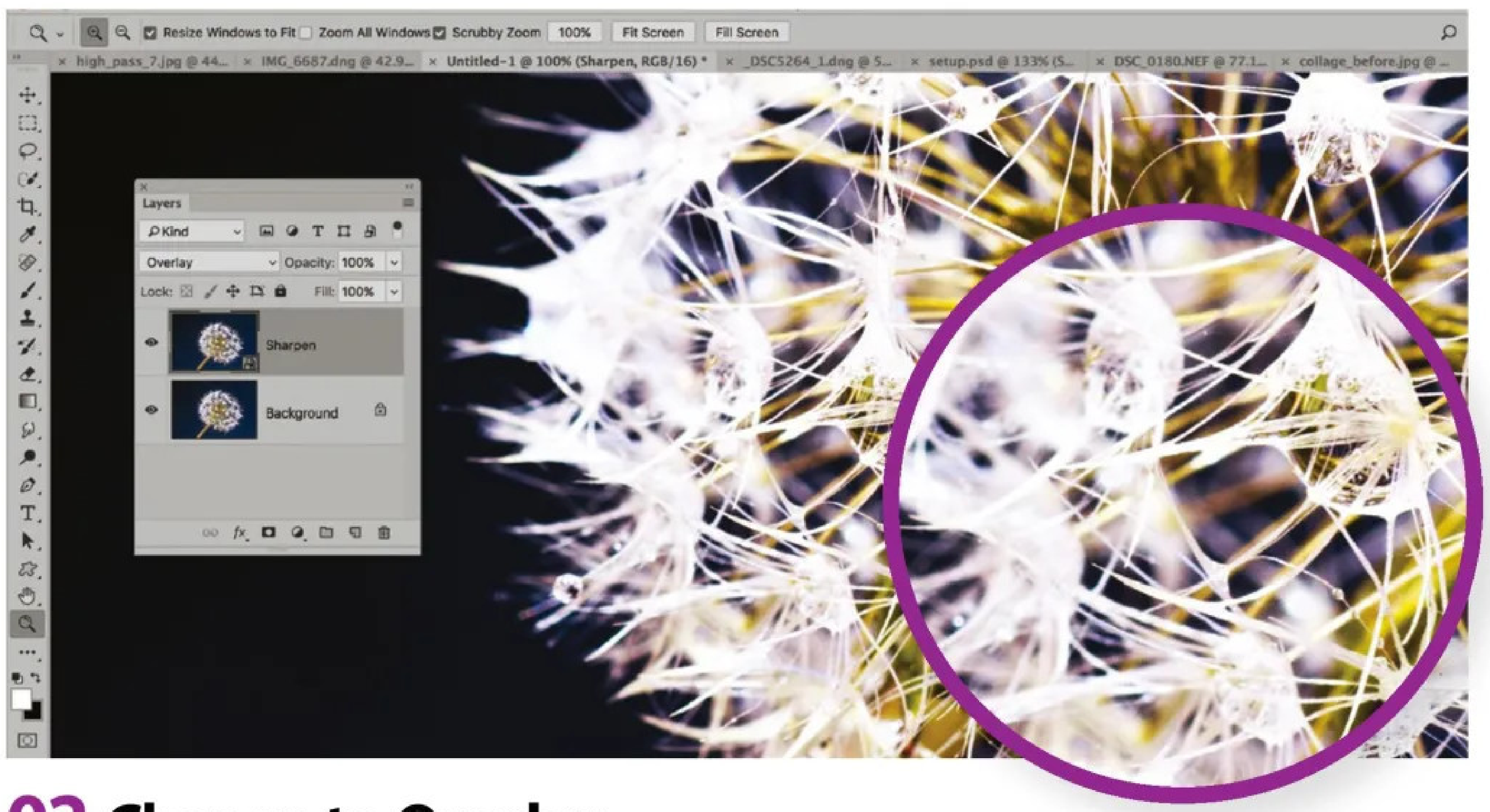

After

Step by step Selective sharpening to make pictures pop


Blending Options...
Duplicate Layer...
Delete Layer
Group from Layers...
Quick Export as JPG
Export As...
Artboard from Layers...
Convert to Smart Object
New Smart Object via Copy
Edit Contents
Relink to File...
Relink to Library Graphic...
Replace Contents...
Export Contents...
Convert to Linked...
Rasterize Layer
Rasterize Layer Style
Disable Layer Mask
Disable Vector Mask
Create Clipping Mask
Link Layers
Layers
Sharpen
Background

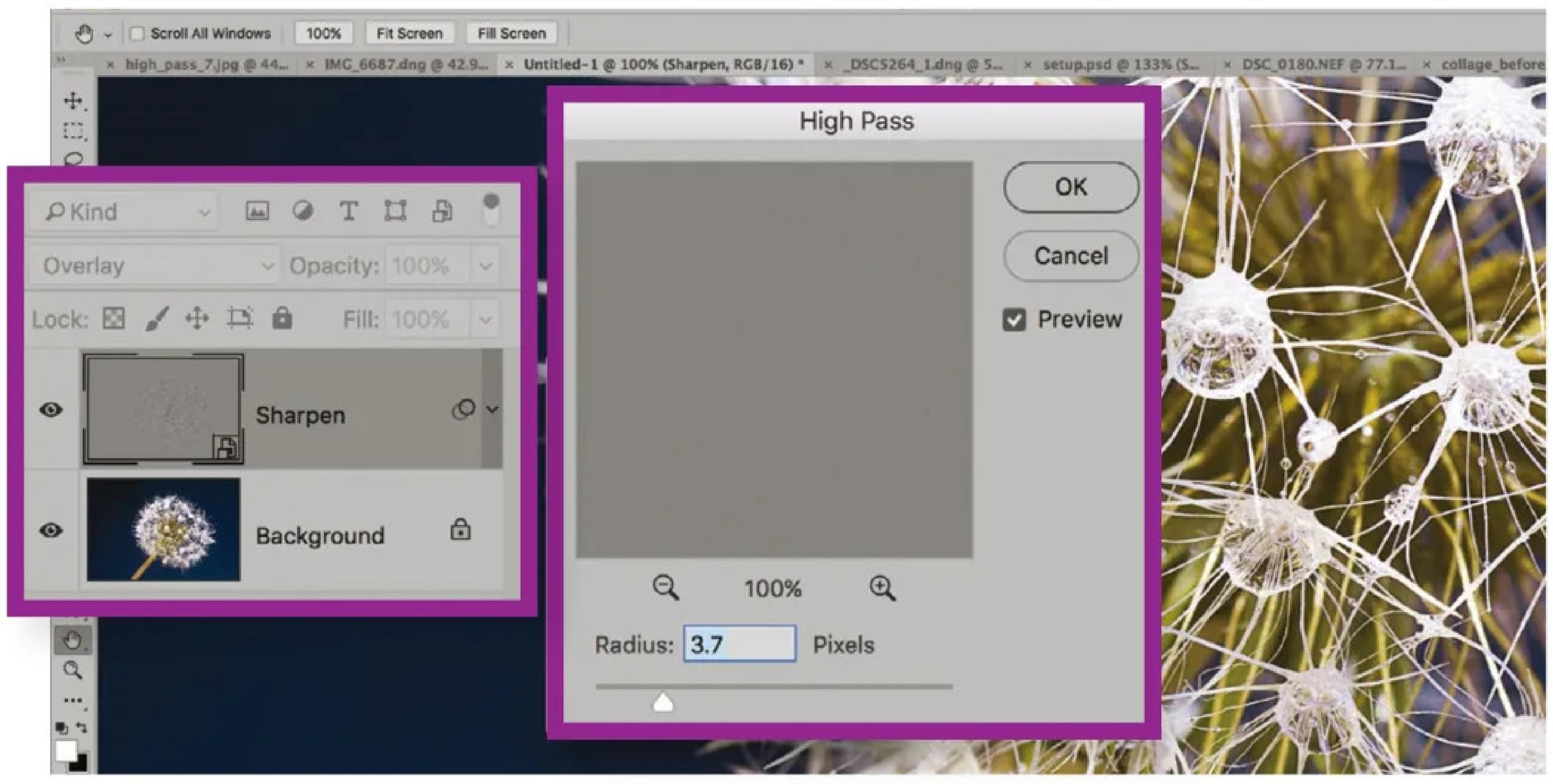
01 Duplicate and blend

Open high_pass_before into Photoshop CC. Go to the Layers panel (Window>Layers) and hit Cmd/Ctrl+J to duplicate the 'Background' layer. Double-click the layer name of the duplicate and rename it 'Sharpen'. Next right-click the layer and Convert to Smart Object.


Layers
Overlay
Opacity: 100%
Fill: 100%
Sharpen
Background

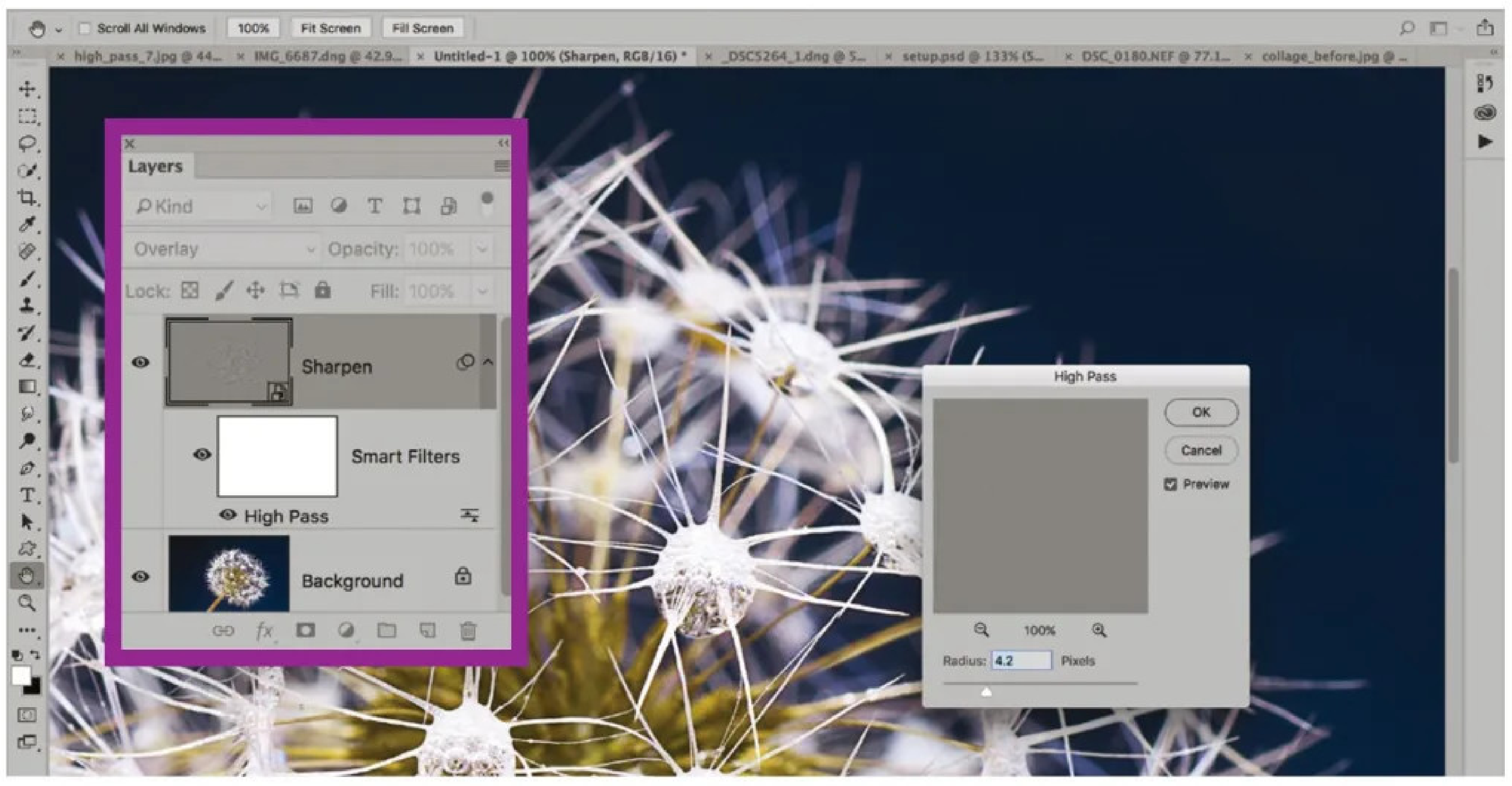
02 Change to Overlay

Go to the Blend Mode drop-down at the top of the Layers panel and change it from Normal to Overlay. This increases contrast, but we'll fix that. Next double-click the Zoom tool. This'll jump your view to 100% (viewing 100% is better when judging sharpening strength).


Kind
Overlay
Opacity: 100%
Lock:
Fill: 100%
Sharpen
Background
High Pass
OK
Cancel
Preview
100%
Radius: 3.7 Pixels

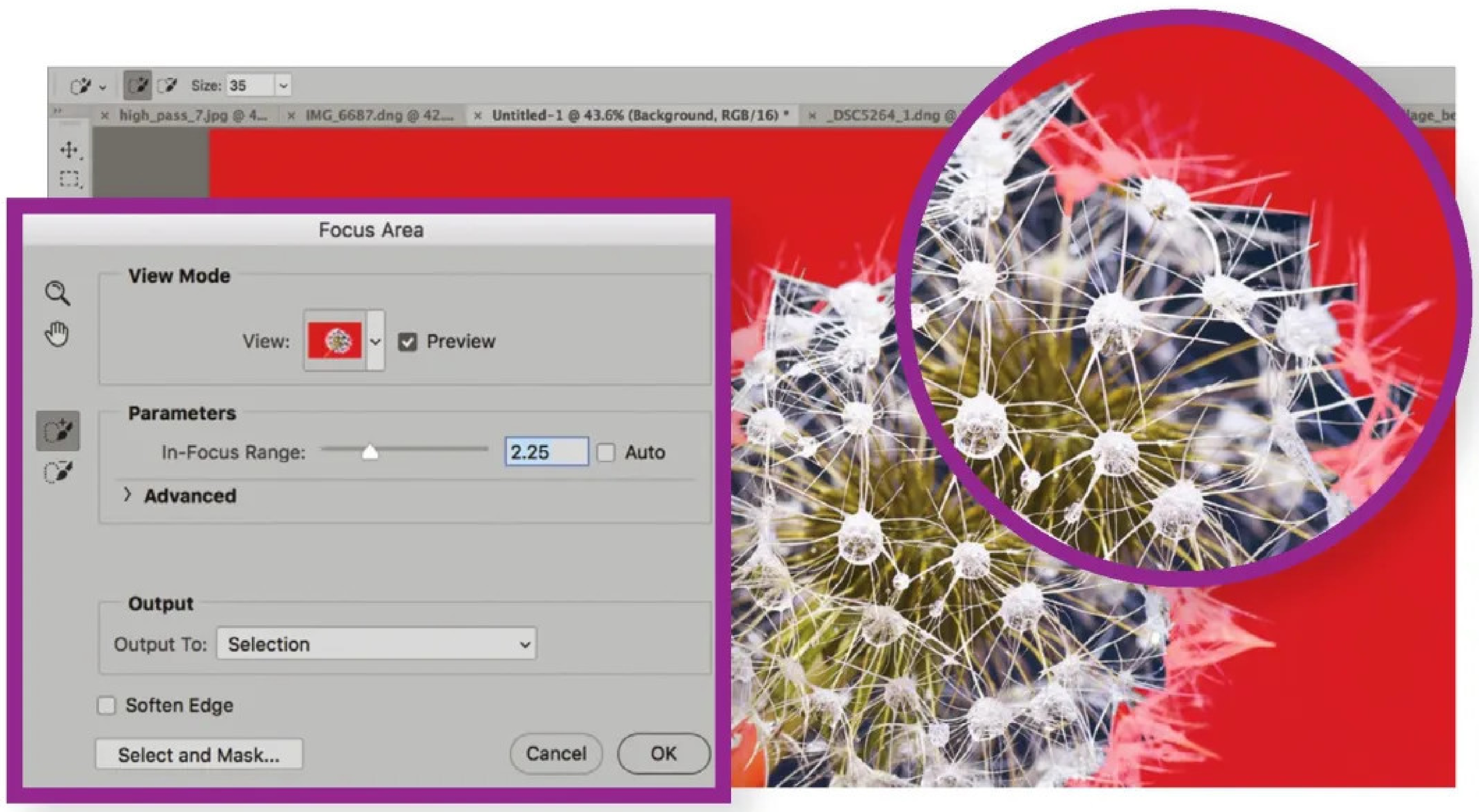
03 Apply High Pass

Then go, Filter>Other >High Pass. Experiment with differing radius strengths, judging how they affect the details in the image. The right amount will depend on the resolution of your image and the subject matter. We've used a radius of 3.7 here. When you're happy hit OK.


Layers
Kind
Overlay
Opacity: 100%
Fill: 100%
Sharpen
Smart Filters
High Pass
Background
High Pass
OK
Cancel
Preview
100%
Radius: 4.2 Pixels

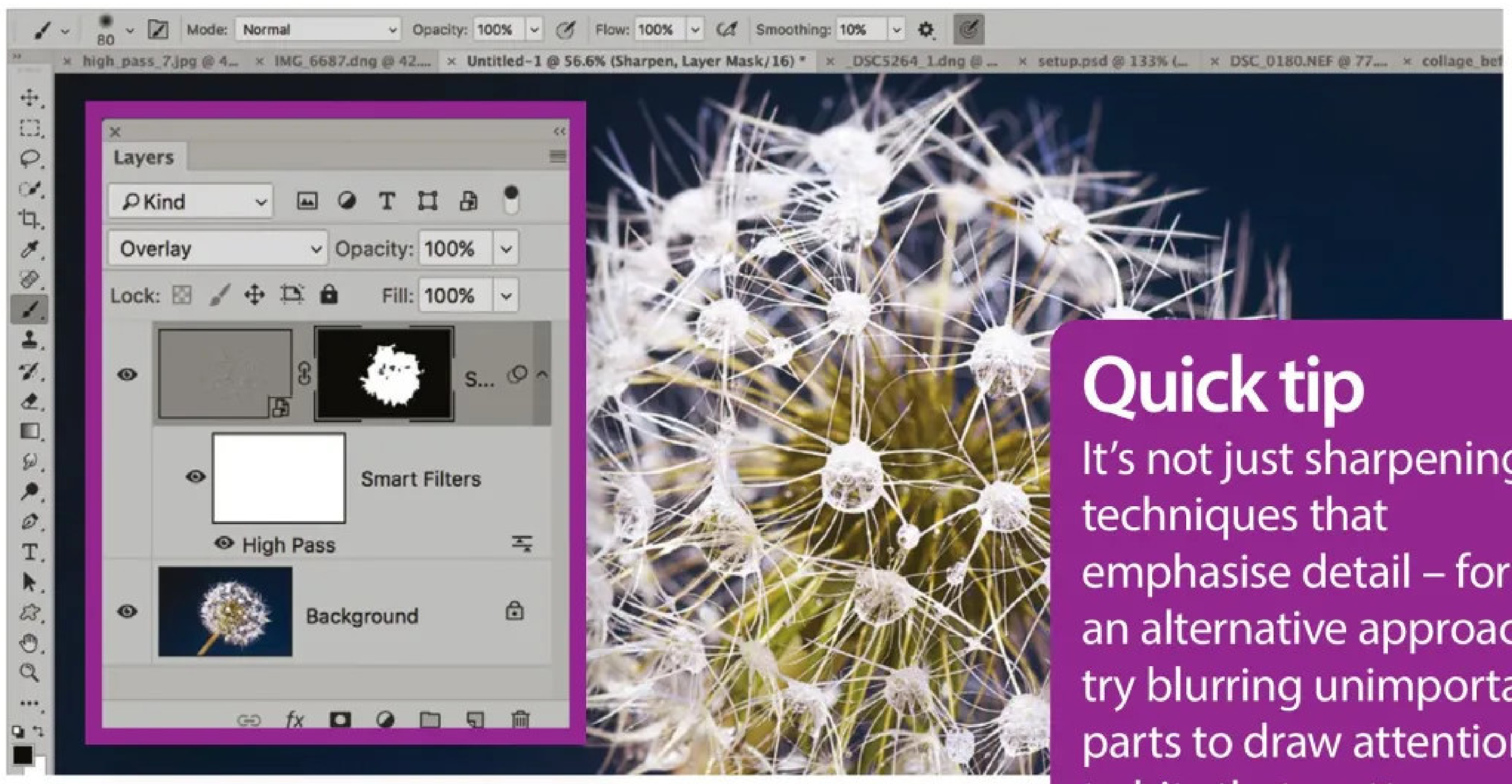
04 Tweak the sharpening

The Smart Objects can edit the filter strength if needed. Click the eye icon to toggle the layer on and off and assess the effect. If you think it needs tweaking, double-click the Smart Filter attached to the layer to redo the High Pass radius settings. We increased it to 4.2.


Focus Area
View Mode
View:
Preview
Parameters
In-Focus Range: 2.25
Auto
Advanced
Output
Output To: Selection
Soften Edge
Select and Mask...
Cancel
OK

05 Use Focus Area

Highlight the 'Background' layer in the Layers panel then go to Select >Focus Area. Click the view drop-down and choose Overlay. Drag the In-focus range slider all the way to 0 and slowly slide to the right until the sharp parts of the image are selected. Once suitably sharp, click Ok.


Layers
Kind
Overlay
Opacity: 100%
Lock:
Fill: 100%
S...
Smart Filters
High Pass
Background

Quick tip

It's not just sharpening techniques that emphasise detail – for an alternative approach try blurring unimportant parts to draw attention to bits that matter

06 Make a mask

Highlight the top layer, click the Add Layer Mask icon in the Layers panel to convert the selection to a layer mask. We can refine the area affected by painting on the layer mask. Grab the brush tool, press D then X to set the colour to black and paint to hide parts of the layer.

33 things photographers do wrong... and how to stop doing them

Photos soft? Exposures off? Compositions not working? Read on to discover how to fix the most common photography problems, fast!

It's impossible to learn the art of photography without making a few mistakes along the way, but if you find yourself doing the same things wrong every time you pick up your camera, it's probably worth getting to the bottom of it. To help you, we've come up with 37 common problems that Nikon photographers are likely to encounter, and suggest ways that you can overcome them.

Over the next pages, you'll find advice for working out why your shots might be slightly blurred, why they might be darker or brighter than you expected, and why your composition could be letting you down. We've also compiled a list of other familiar camera-setting complaints and photography slip-ups that are sure to frustrate you at some point.

Whether you're just starting out or you're a Nikon old hand, you'll find lots of useful tips for helping you get to the bottom of your workflow woes, and getting to grips with the features available on your camera. And if you still have questions after all that, you know where we are…

Focusing

Beat image blur
Page 154

Exposure

Take control of tones
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Composition

Add impact to images
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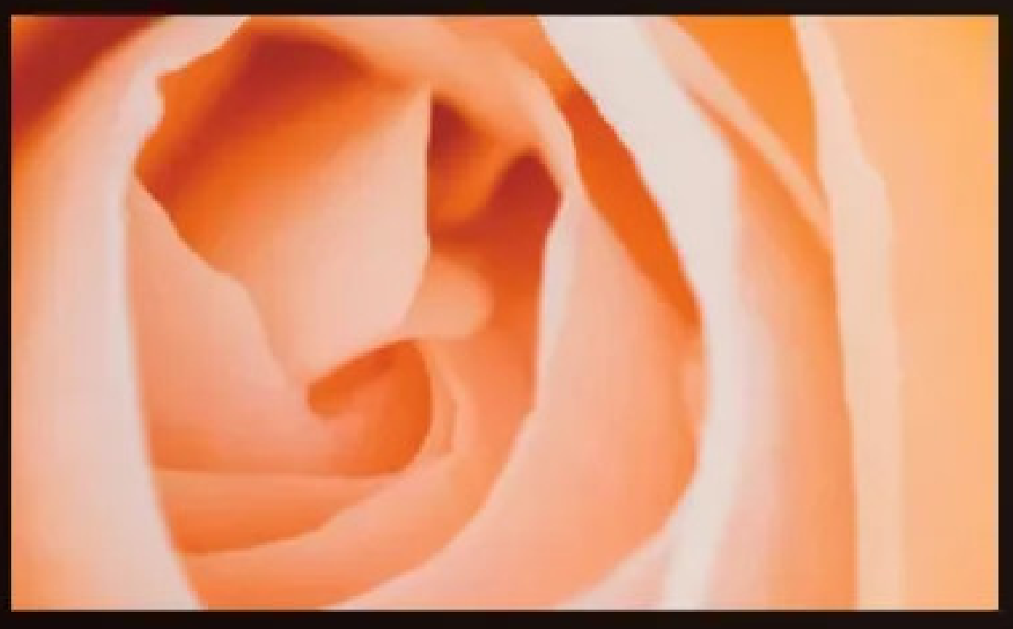
Camera Errors

M
A
S
P
SCENE
AUTO
CL CH Q

We've all done it!
Page 1760

Lighting & Processing



Finishing touches
Page 162

Focusing

Why are my shots blurred?

Here are the top reasons why your photos aren't sharp, and what you can do about it

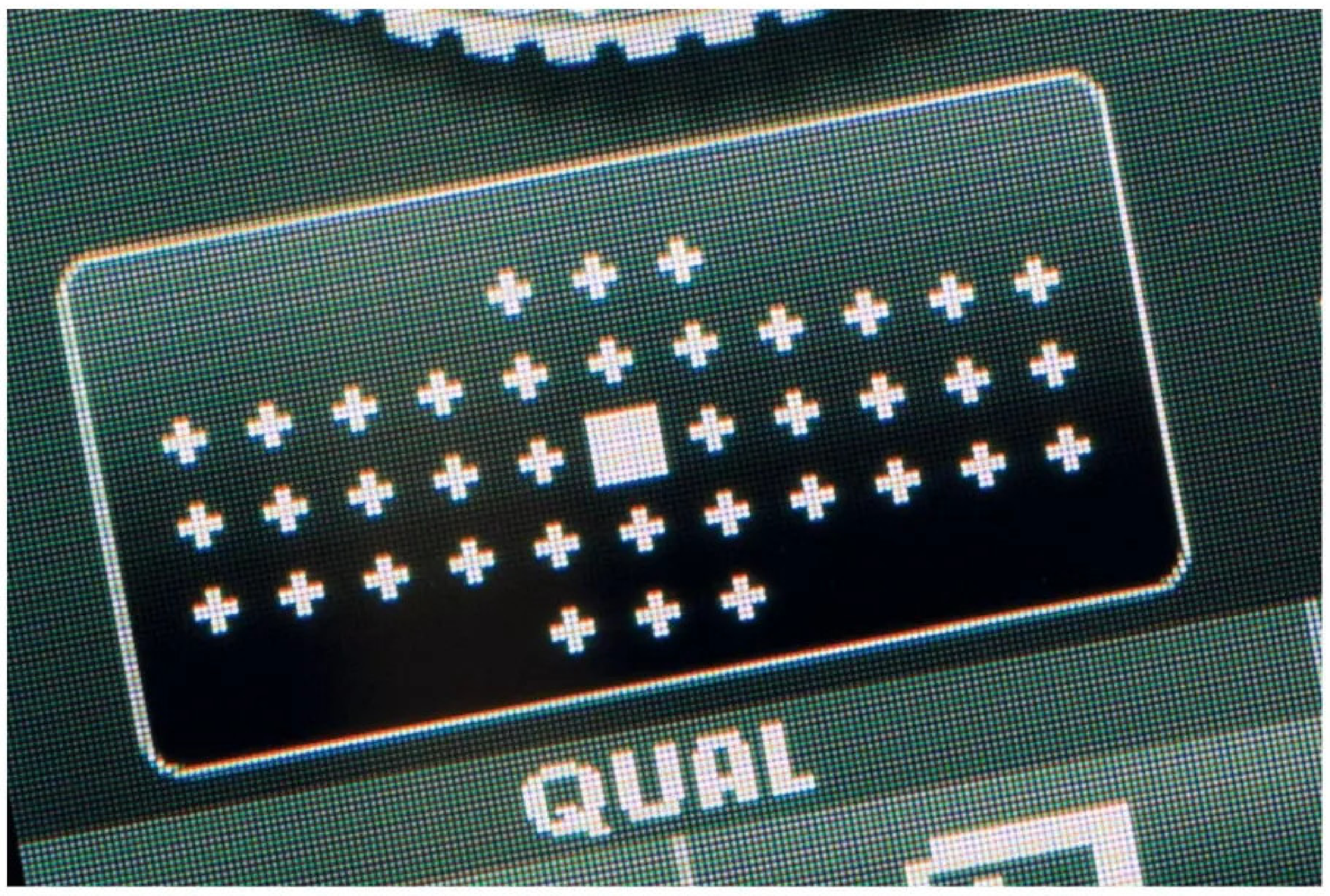
01

Not taking control of the AF point

Don't leave it up to the camera to decide where to focus. It won't know which feature you want to be sharp in the picture, and if there's something in front of the main subject, or the background is detailed, or there's not a great deal of contrast between the main subject and the rest of the picture, then your Nikon may focus on these and not the subject.

You'll get more consistent results if you tell your Nikon which part of the frame you want to focus on. For absolute precision, choose a single AF point. The centre spot is the most sensitive, although not best-placed for the most dynamic compositions. For an off-centre subject, you'll need to use the 'focus and recompose' method: point the central AF point on the subject, half-press the shutter release to lock the focus, and then recompose the shot.

Alternatively, use an off-centre AF point that corresponds with the positioning of the subject in the frame. This is the best option if you're taking pictures at close quarters; if you opt for the focus-and-recompose method instead, the shift in camera position can mean that the point you locked focus on is now at a different distance relative to the position of the sensor, and may actually be blurred.

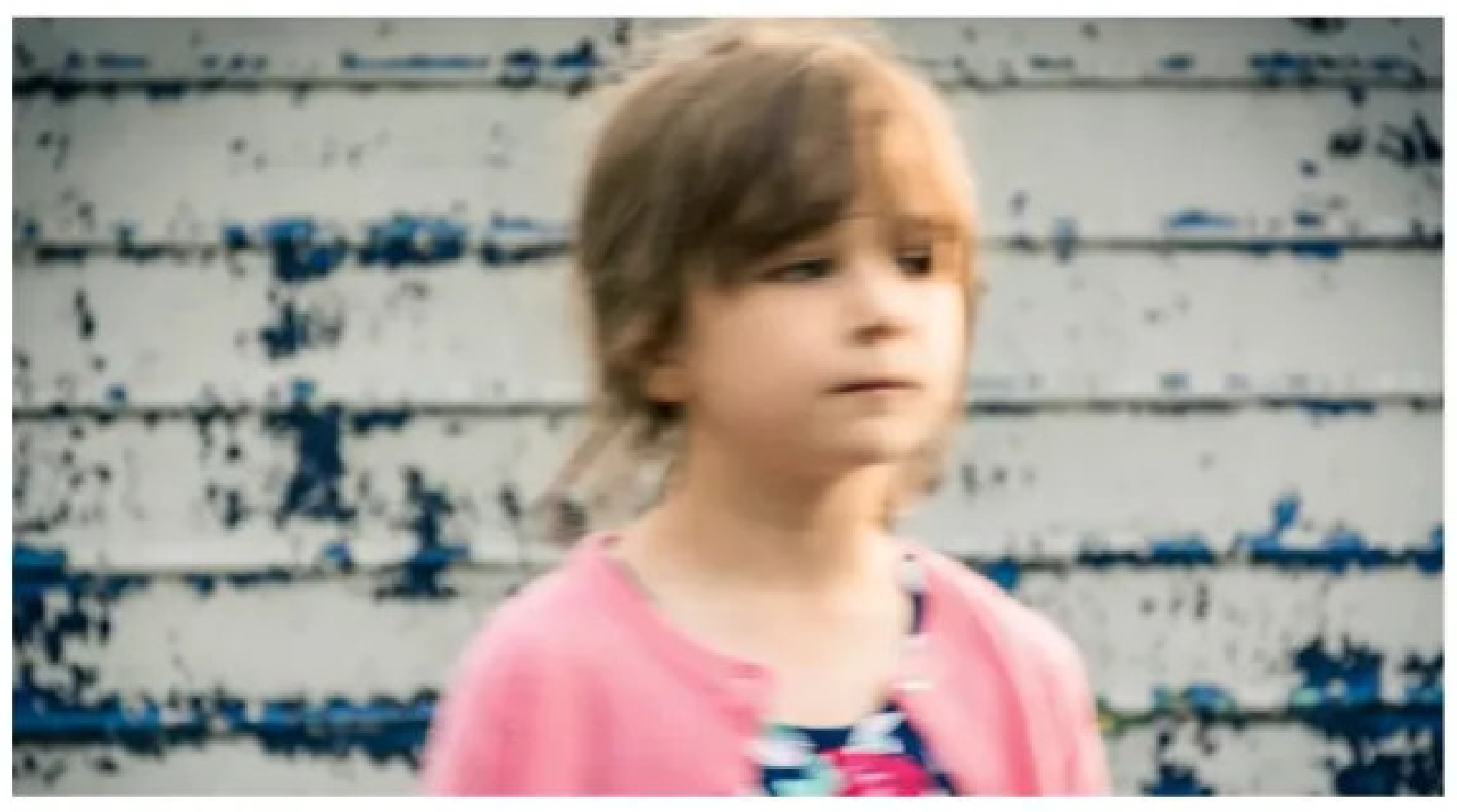


02

Not keeping an eye on the shutter speed

The rule of thumb for handholding is to set a shutter speed equivalent to (or faster than) one divided by the focal length you're shooting at, so that's 1/50 sec when shooting at 50mm, 1/400 sec at 400mm and so on. But your hit rate may vary when it comes to keeping a lens still at these shutter speeds. Vibration Reduction (VR) lenses make a difference at slower speeds, but will have no effect on any subject movement.

If in doubt, use a shutter speed that's twice as fast – you may need to increase the ISO, but better to have a sharp, grainy shot than a blurred one. If your subject is moving, you might have to go even faster – even if you're able to eliminate camera shake, if the shutter speed isn't fast enough to 'freeze' the movement, your subject will end up looking blurred.



03

Not working hands free

A tripod is the best way to ensure sharp photos at very slow shutter speeds, but even the sturdiest set of legs may not prevent details from looking smudged if the camera isn't perfectly stable. The action of pressing down on the shutter release button can jog the camera, so it's worth triggering the shutter with a remote release, or using the self-timer or exposure-delay function for pictures that aren't time-sensitive.

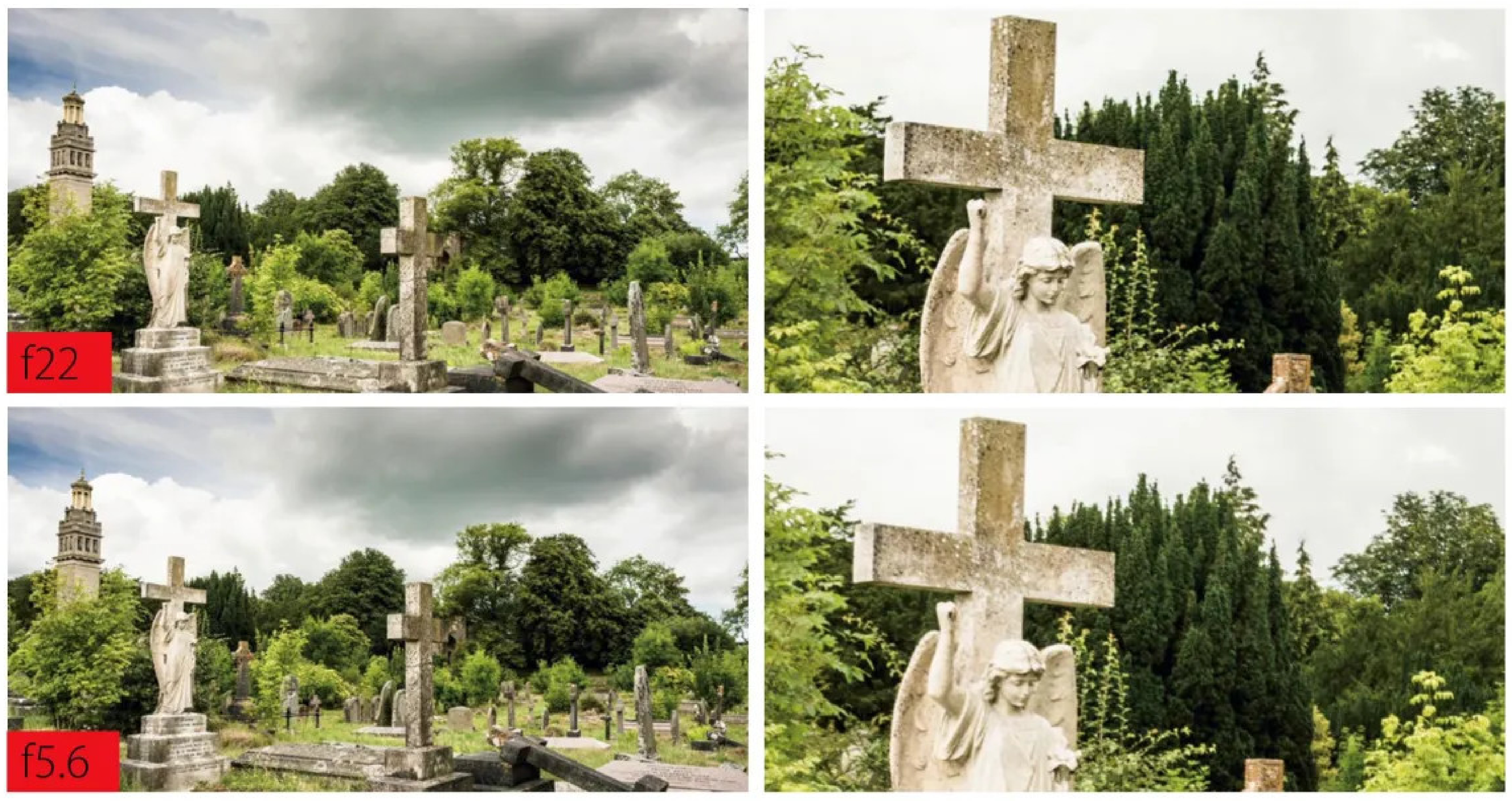
Vibrations caused by the mirror moving (to expose the sensor to light) can also lead to soft shots. To remedy this, use the camera's Mirror Up (MUP) mode or activate Live View, as the mirror is moved out of the way in Live View.

Not using the optimum aperture

04

Although there will be situations when you want to use a large aperture to help you separate a sharp subject from a blurred background, there will be other times when you want more of a scene to appear sharply focused. It might be tempting to reach for the smallest aperture on the lens, but this actually leads to softer pictures due to the effects of diffraction – essentially incoming light rays being bent out of shape by the aperture blades, which is more noticeable at small apertures.

It's often preferable to sacrifice some depth of field in order to deliver an image where details are pin-sharp. This is often in the middle of a lens's aperture range – typically around f8 to f11, although this varies from lens to lens.



An aperture of f22 may not give bitingly sharp results thanks to the effects of diffraction, whereas an aperture of f5.6 may not offer enough depth of field for a scenic shot

Zooming the lens after you focus

05

Most of the zoom lenses made today aren't in fact true zooms, or what are known as 'parfocal' lenses; rather, they're 'varifocal' lenses. One of the drawbacks of this type of design is that the focus shifts as the lens is zoomed. This means that if you zoom in to lock the focus on a detail within a scene and then zoom back out to take a shot, there's a good chance that the detail you want to appear sharp will now be blurred.

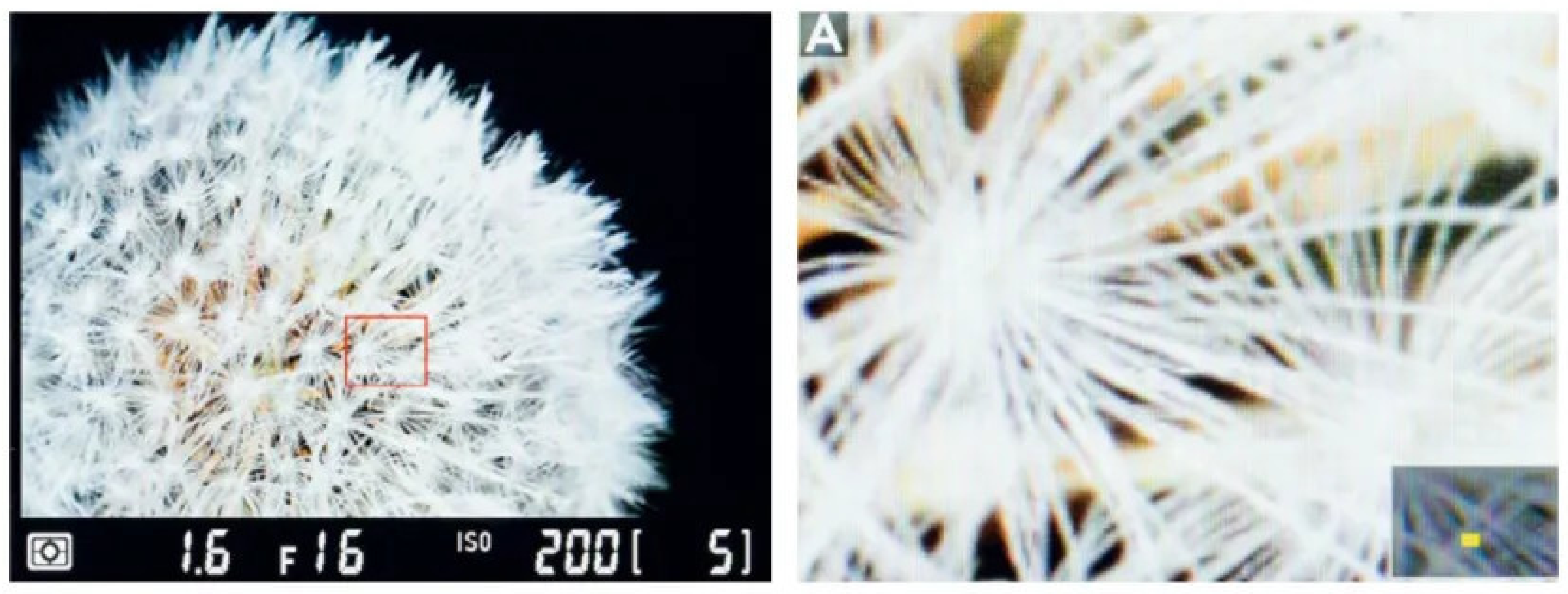
If the zoom range isn't too great, the change in focus may be subtle. Using a small aperture to give a large depth of field – the amount of front-to-back sharpness in a picture – can also mask any focus shift. But the easiest way to prevent this is to get into the habit of only focusing after you've zoomed. Once it becomes part of your shooting regime you won't even have to think about it.

06

Not making the most of manual focus

When you use autofocus, there are a number of links in the chain that can break, leaving you with soft pictures. For instance, a lens may suffer from a back-focus or front-focus issue, where the sharpest focus is actually fractionally behind or in front of the edge that your AF point has locked onto. Nikon's AF Fine-Tune function can help remedy this somewhat, enabling you to compensate for a specific lens's AF performance with a specific camera.

For this reason, for critical work where focus is everything, such as macro photography or landscapes, manual is the way to go. Live View potentially makes this a piece of cake, allowing you to magnify details to 100 per cent. However, some cameras use so-called 'interpolation' to create the magnified view, resulting in a Live View image that's not particularly sharp, and therefore harder to judge accurate focus on. One option here is not to magnify the image too far. Alternatively, shoot in RAW and then fine-tune the Picture Control setting to produce a sharper, higher-contrast preview image that's easier to judge focus 'snap' on – shooting in RAW rather than JPEG means the image will be unaffected by the effects of the Picture Control setting.



Live View can make focusing manually easier, although zooming too far into the image can actually make it tricky to evaluate sharpness

07

Not using the correct AF mode

Nikon DSLRs have three autofocus modes: one for stationary subjects, one for moving subjects, and an AF-A mode that automatically switches between the two, depending on whether the camera detects movement and decides that your subject is mobile. However, cameras don't always get it right, so for absolute peace of mind, always set the correct mode manually.

Exposure

Why are my photos too bright or too dark?

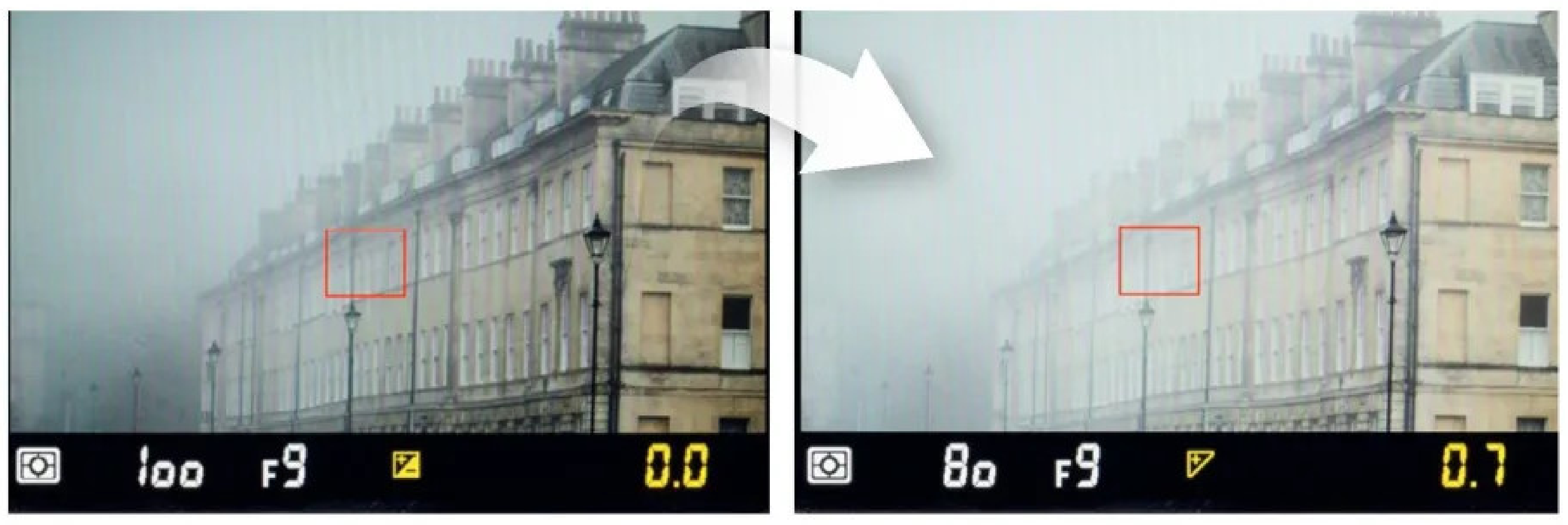
You can tell immediately if there's an exposure problem. Here's how to diagnose why your shots might be under- or over-exposed…

08

Not using exposure compensation

Matrix metering does a fine job of producing balanced exposures for the majority of day-to-day photo opportunities. However, faced with an overly bright or dark subject or scene, the camera can get things wrong. Despite Matrix metering essentially applying its own exposure compensation to deliver what it determines is an optimum exposure, it may not be accurate.

Manually dialling in exposure compensation at the time of shooting is far better than trying to rescue an under- or over-exposed image later. Pushing the brightness of an image that's very dark in Photoshop can lead to noise in shadows, while trying to eke some detail from burned-out highlights can lead to 'digital'-looking results.



A bright, foggy scene may appear too dark if you don't apply positive exposure compensation: the camera wants to make the fog grey rather than white

09

Ignoring the histogram

It's easy to get caught up with composition and focusing, and to forget to check the histogram regularly. But getting the exposure right in-camera is far better than trying to fix things later. Don't rely on the image playback alone to judge the exposure, as the brightness of the LCD itself can give a false impression of the brightness of the shot, especially at night, or in bright sunlight. If a histogram is cut off or 'clipped' at either end, this indicates there are areas that are pure black or pure white, and so contain no texture or detail (in other words, areas that are under- or over-exposed).

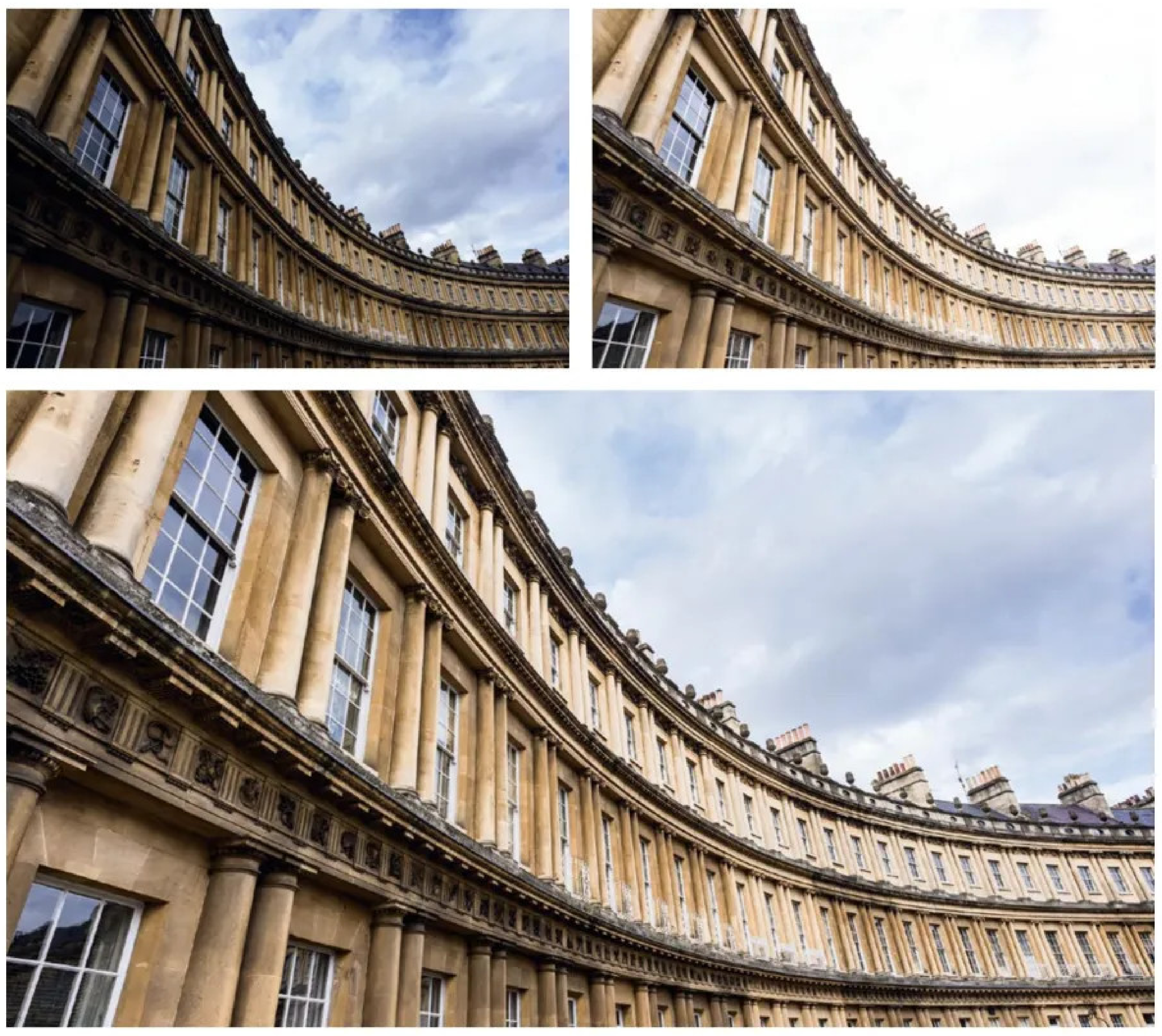
If you find that the preview of the image displayed alongside the histogram is too small, then try the Highlights display instead. With this enabled, areas that are potentially over-exposed will blink on the display.

10

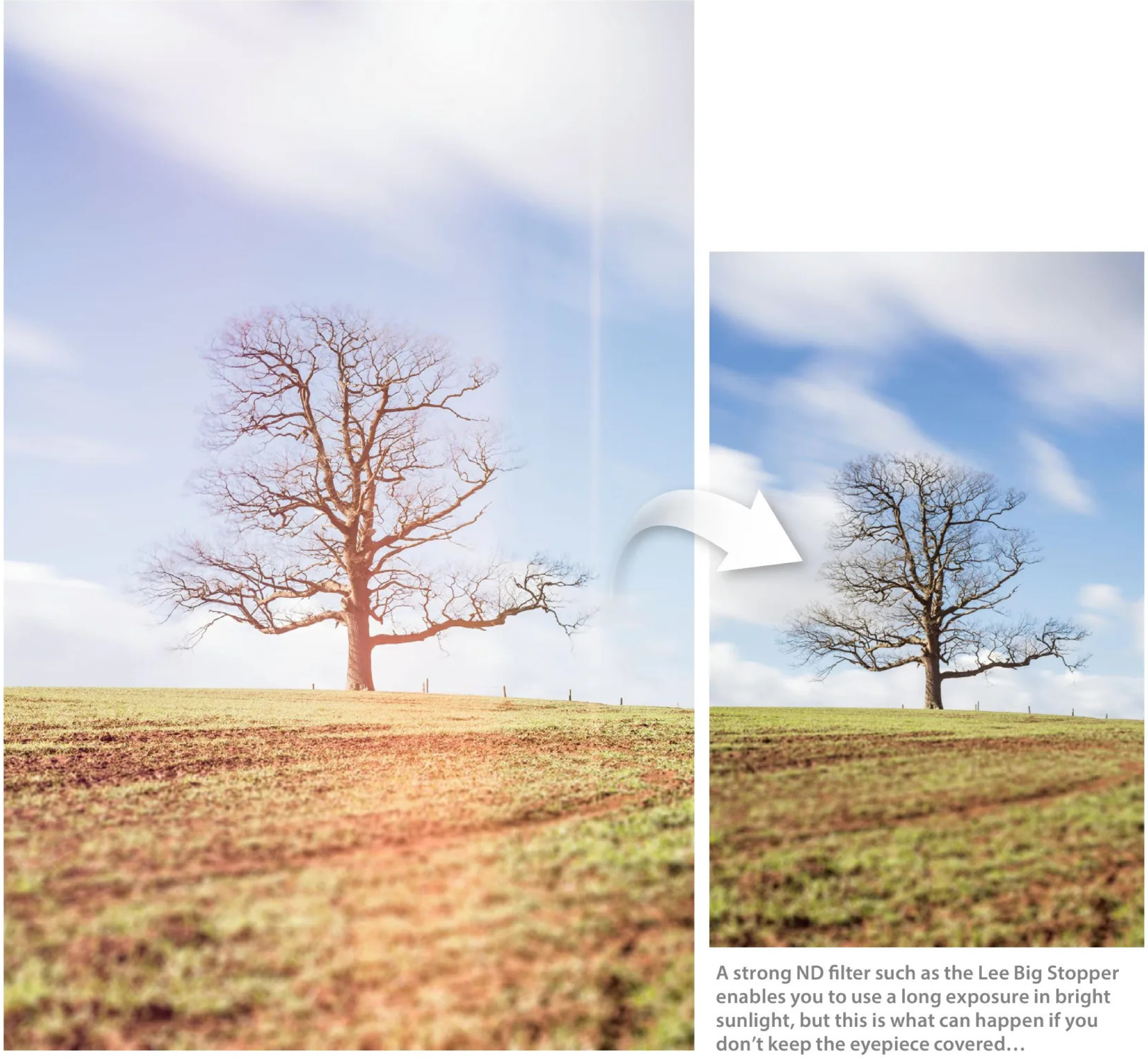
Not keeping an eye on the dynamic range

Sometimes the dynamic range of the scene – the difference in brightness between the darkest and lightest points – may be too wide for the camera sensor to cope with in a single exposure (see page 56 for more on this). The key to identifying this is to check the histogram: if it extends beyond both the left and right-hand ends of the graph, then exposure compensation won't make any difference. This is typically the sort of situation you'd encounter when shooting a backlit portrait, or a landscape at dawn or dusk.

There are a variety of ways you can reduce the dynamic range of the scene so that it fits within the dynamic range of the camera's sensor. These include using flash to brighten up a backlit portrait, or a attaching a graduated Neutral Density filter (ND grad) to darken a bright sky in a landscape shot, bringing its exposure level closer to that of the land. With stationary subjects you could also try taking two or more pictures at different exposures and then blending the best bits of each in software.



In this situation, you could either expose for the sky or expose for the buildings (top). One solution is to shoot two images and blend the well-exposed areas of each image in Photoshop later (bottom)



A strong ND filter such as the Lee Big Stopper enables you to use a long exposure in bright sunlight, but this is what can happen if you don't keep the eyepiece covered…

11

Forgetting to shield the eyepiece

Did you know that light can enter the camera through the viewfinder and affect the exposure of a picture? Most of the time this doesn't present a problem, as your face is glued to the back of the camera and shields the eyepiece, but if you switch to Live View, or fire the shutter using a remote release, then there's a chance that light can leak through the viewfinder. The effect is more obvious in shots take over a long exposure, when strange, ghostly shapes and streaks can be burnt into the image, as can be seen in our photograph of a tree here.

Nikon recommends using an eyepiece cap to block the viewfinder in these circumstances, but you might not have one of these to hand. It's just as easy to drape a black lens cloth over the top of the camera instead – and you can use it to keep your lens clean, too!

Fumbling flash settings

12

If you're using fill-flash outdoors and find that your pictures are coming out too bright, then it's likely that either you're too close to the subject or the shutter speed required to expose the shot correctly exceeds the flash sync speed (the fastest shutter speed that flash can be used with – typically 1/200 sec). Switching to a smaller aperture is often the easiest way to fix this problem. The aperture controls the flash exposure, with smaller apertures reducing the flash exposure.

On very bright days, this may mean that you end up using a smaller aperture than you'd like, bringing more of a scene into focus. In this situation, fit a standard ND filter to your lens; this will let you use large apertures without over-exposing.

1/200 SEC AT f2.2, ISO200

1/200 SEC AT f9, ISO200

13

Not checking the metering mode

The metering mode you set makes a big difference to how bright or dark a picture is. If an image looks way too bright or dark, check that you haven't accidentally set the wrong mode. Spot metering, for example, only meters a small part of the scene, and if you've manually selected an autofocus point then the spot meter will be linked to this spot too.

Composition

Why do my pics look like snaps?

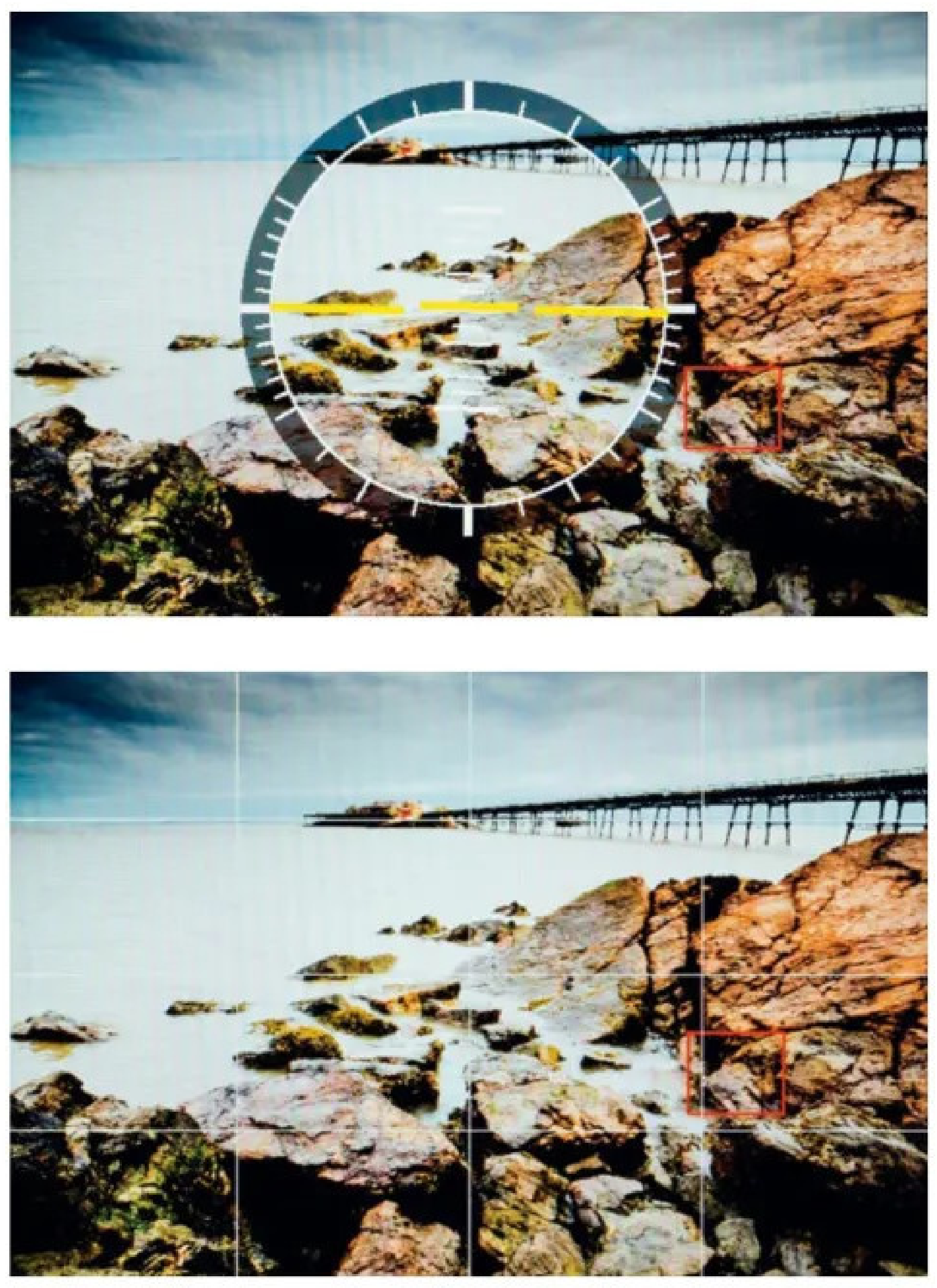
Here's why your framing may be letting you down, and some simple ways to improve it…

14

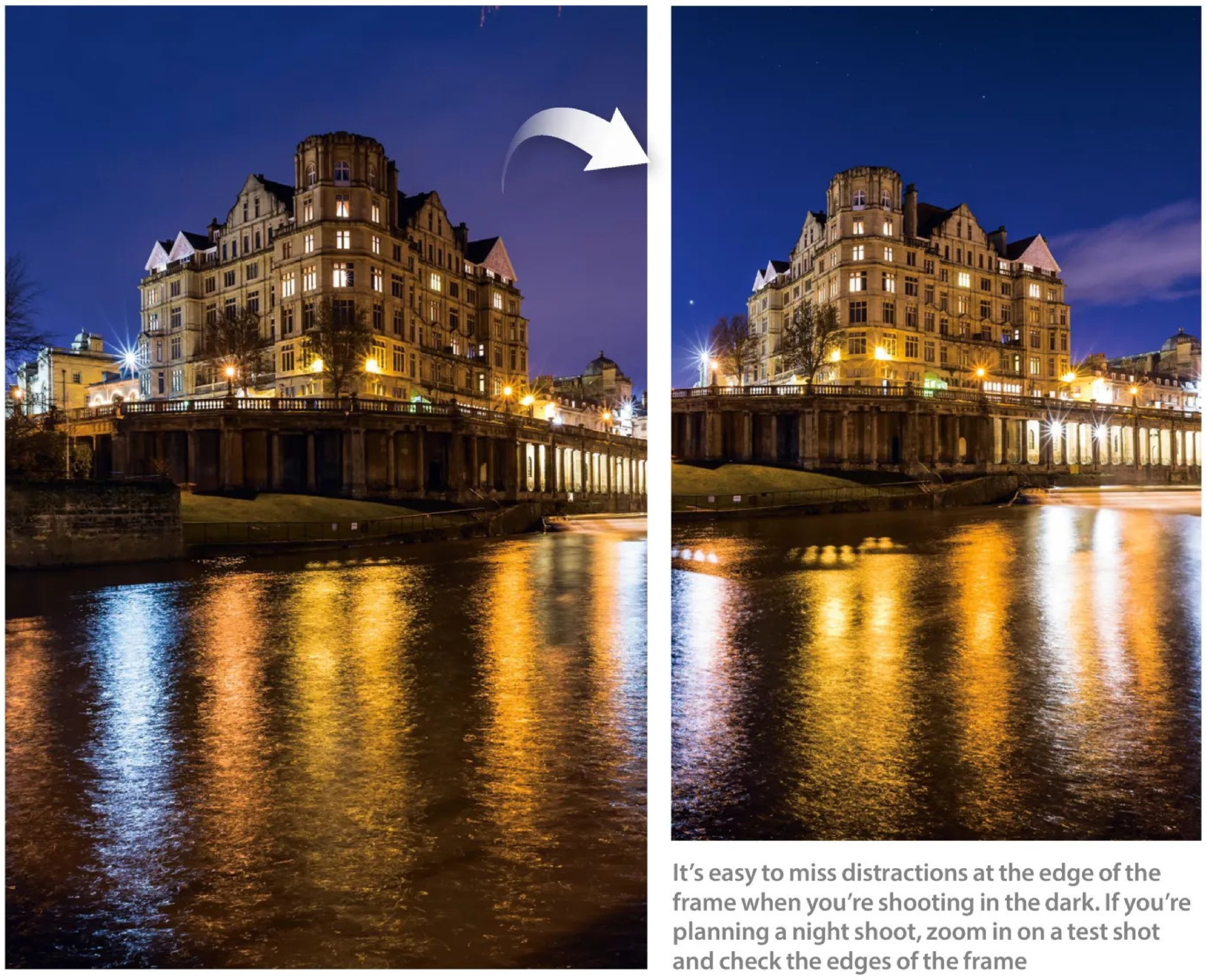
Not getting the horizon level

There's really no excuse these days! Nikon's built-in Virtual Horizon option can help you get plumb-straight seas, landscapes and architecture. If your camera lacks this feature, activate the grid display instead – some SLRs enable you to do this in the viewfinder as well as on the Live View screen. If your SLR lacks both of these, use the AF points in the viewfinder to line up the feature you want to appear straight.

You can, of course, correct a sloping horizon in Photoshop, but this can lead to a significant portion of the image being trimmed off when the correction is made. It only takes a few seconds to get it right in-camera, so you may as well save yourself some pain later.



If you find the Virtual Horizon or grid overlay difficult to see on the rear screen, try fitting a traditional hot-shoe bubble level instead



It's easy to miss distractions at the edge of the frame when you're shooting in the dark. If you're planning a night shoot, zoom in on a test shot and check the edges of the frame

15

Not checking the edges of the frame

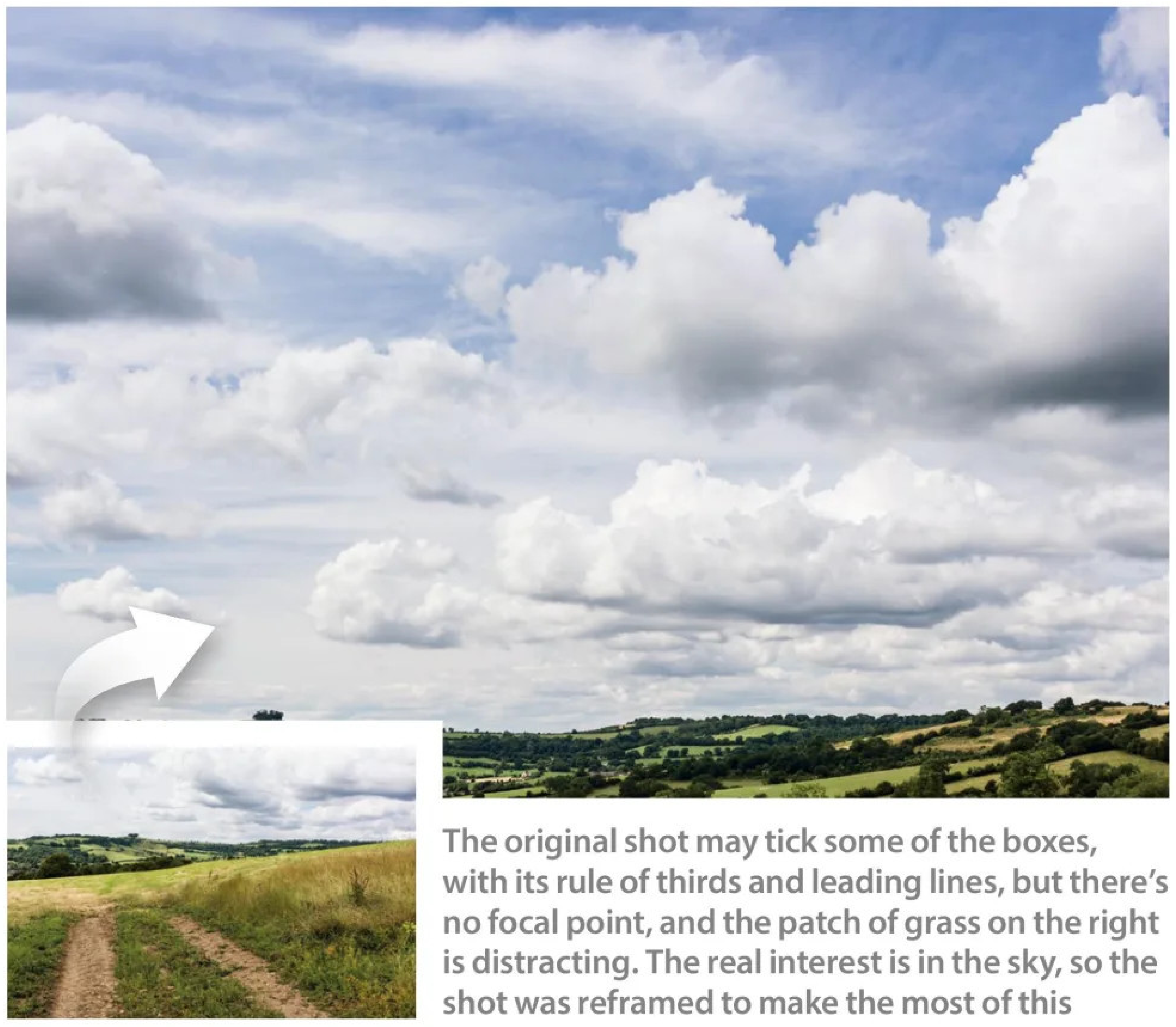
When you're focused on getting a shot and making sure the subject looks its best, it's easy to miss distracting elements at the edges of your frame. You can, of course, spend time in post-production cropping a shot or cloning out unwanted features that were missed when you framed the shot in the viewfinder, but to make the best use of your time and the full potential of the camera's sensor (and get into the habit of taking the photograph you want and not relying on editing), it pays to get it right when you take the picture.

That's easier said than done, especially when you factor in the fact that not all Nikon's viewfinders provide 100% coverage. This explains why you may be surprised to see branches, leaves or street lamps creeping into your carefully composed shots when you play them back on the rear screen (above). So, before you press the shutter release button, run your eye quickly around the edge of the screen to check for possible distractions – zooming the lens out slightly before recomposing your picture can help to pick out those things that may be hidden at the time of shooting. Alternatively, switch to Live View mode, as this always shows the complete picture, with 100% coverage on all cameras.

Not finding a point of interest

Photos can end up looking like snapshots if you don't give them a focal point. If there are too many elements in a picture that aren't working in harmony, the viewer's eyes will wander around the shot looking for something to latch onto. One technique is to use the 'rule of thirds' to position the subject – this is particularly effective when the focal point is small in the frame. Another trick is to frame a shot so that there's an odd number of elements, as this tends to result in a more balanced composition.

16



The original shot may tick some of the boxes, with its rule of thirds and leading lines, but there's no focal point, and the patch of grass on the right is distracting. The real interest is in the sky, so the shot was reframed to make the most of this

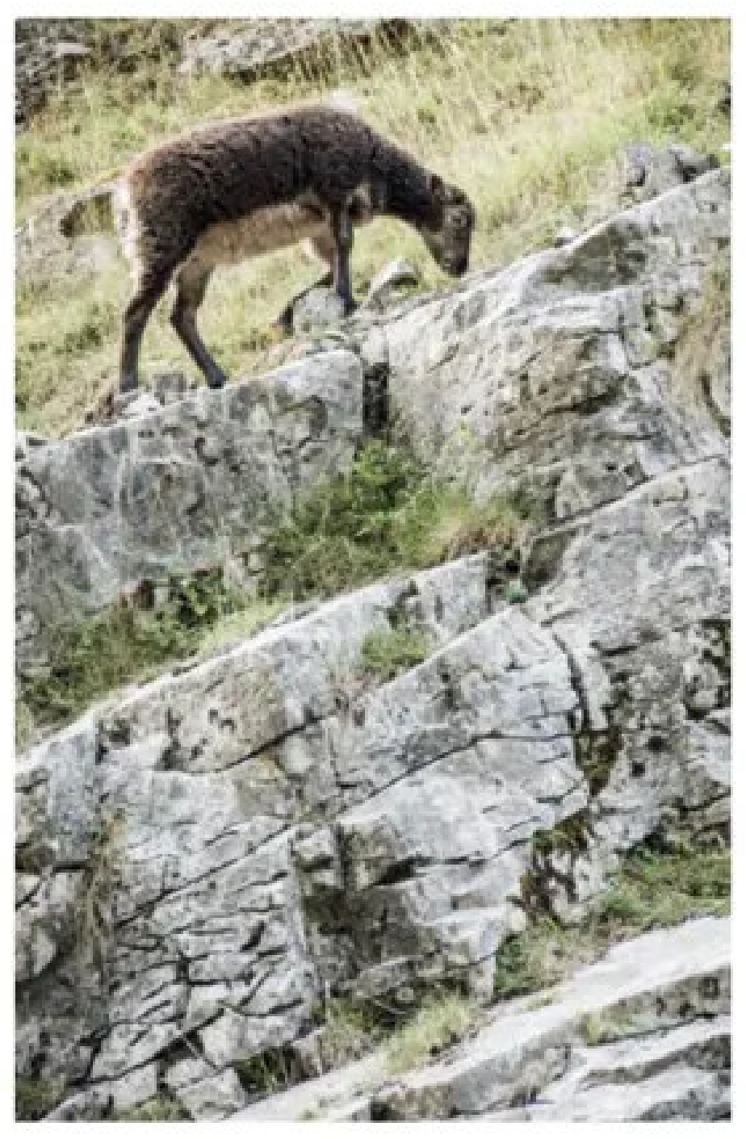
Leaving too much dead space

One of the first decisions to make when framing up a shot is whether the subject or scene suits a horizontal or a vertical format. Generally, taller subjects suit the latter format, although including some of the environment in a wider shot may add more interest. You can crop a vertical image out of a landscape-format shot when you edit the original shot, but you'll also reduce the image size. If you've got the time and space on a memory card, it's worth 'bracketing' your composition, in the same way that you would bracket the exposure.

17

Here, the strong leading lines and symmetrical subject lend themselves to a tighter, vertical crop

18



Not getting close enough

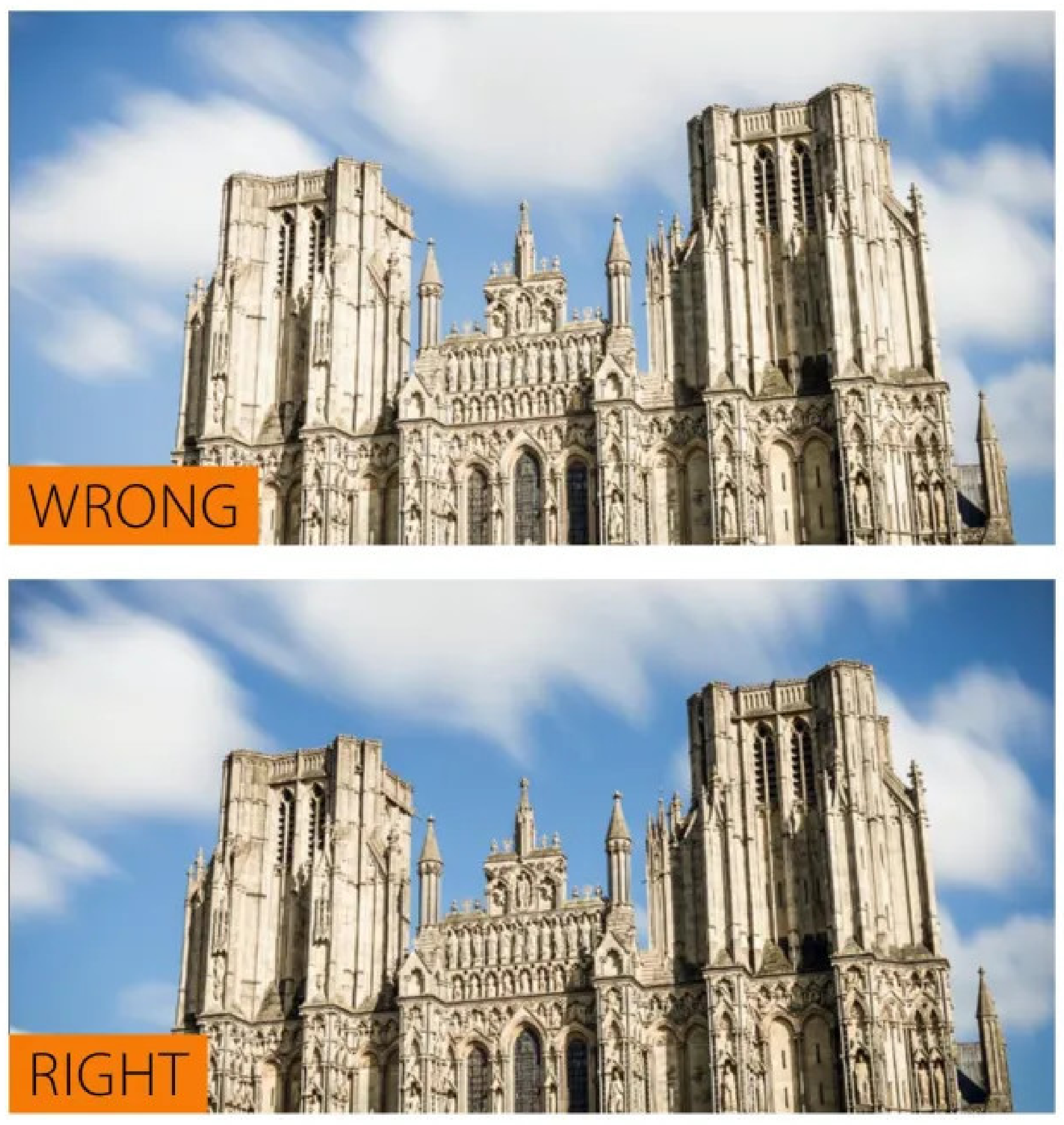
As photojournalist Robert Capa famously noted: "If your photographs aren't good enough, you're not close enough." With this in mind, it's easy to feel disheartened if you find yourself in a situation where you're lacking in focal length. While it's true that frame-filling shots have impact, they're not always an option. Cropping an image can get you that full-frame impact – albeit at the expense of image size – but why not try composing shots so that your subject is positioned within the environment, rather than isolated from it?

19

Not capturing the decisive moment

In any set of images, one will stand out as the best; the one where everything comes together. This 'peak' moment doesn't have to be something as grand as a gymnast at the zenith of an elaborate spin: it could be a subtle shift in someone's expression when you're shooting a portrait, for example, or the position of clouds in a landscape shot.

Naturally, the more frames you fire off in succession, the greater your chances of capturing the peak of the action or the defining moment. That being said, timing is everything; if you see the moment through the viewfinder, then the chances are that you've missed the opportunity to record it! Trying to anticipate this moment is key, and starting to shoot before it happens will increase your chances of capturing it.



Even 'stationary' shots can show a peak moment. The second shot stands out because of the position of the clouds – the larger one appears to be streaming from the cathedral's central pinnacle

Always shooting from head height

20

If you find that your compositions lack punch, it may be because you're not exploring all the angles. By making the effort to find a shooting angle that's lower or higher than head height, you can create a more interesting and unusual picture.

Settings & Kit

Common camera errors

Here are eight familiar camera and camera settings problems photographers face (we've all done it!) and what you can do about them

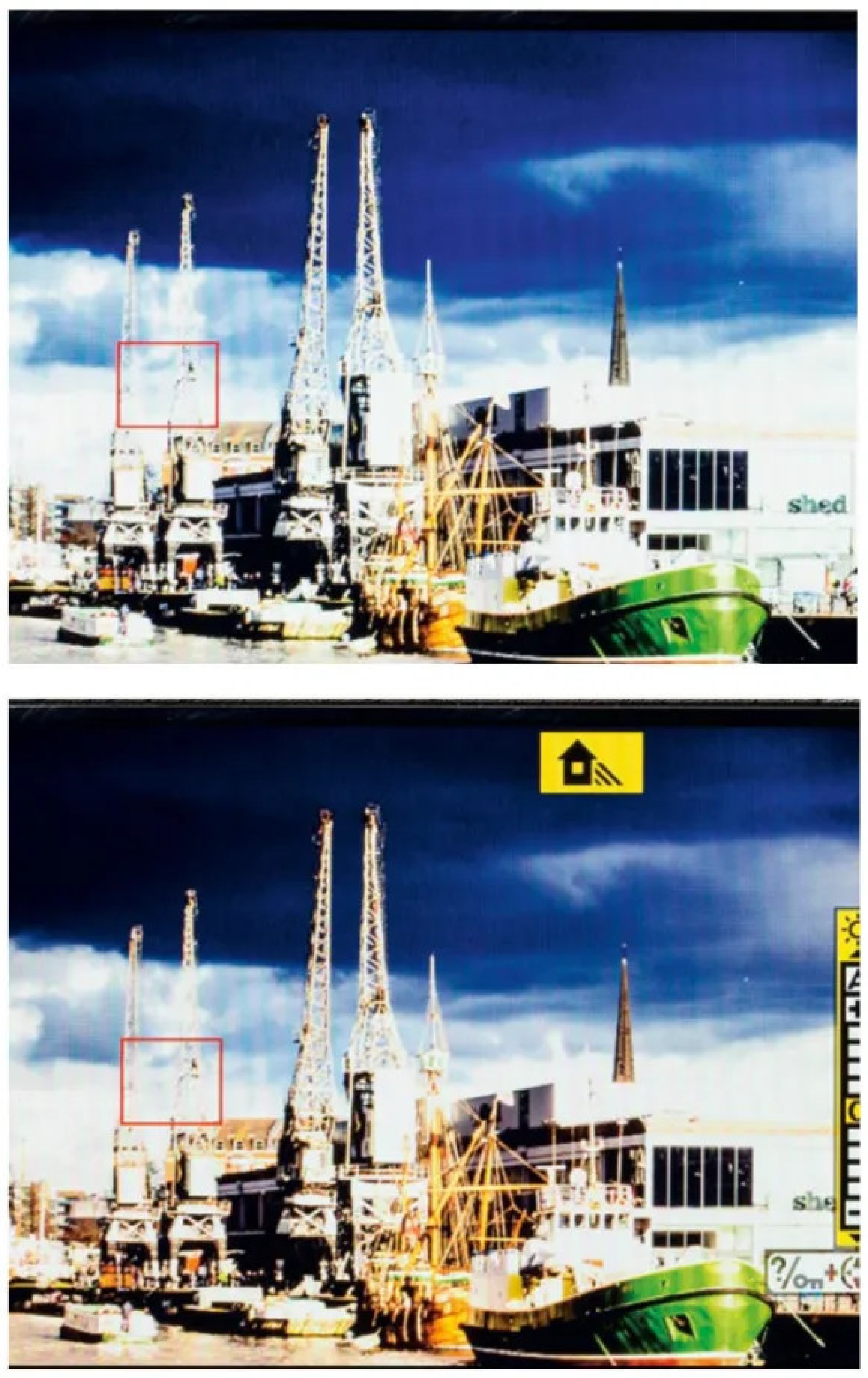
21 Not resetting the camera

It's a good idea to develop (and use) a default 'grab and go' set-up that the camera can be reset to once you've finished taking a series of pictures. Doing this ensures that you can change any settings from a familiar set of parameters. For instance, if you forget to reset any exposure compensation you've dialled in, then subsequently dial in some additional compensation, you may end up with horribly over- or under-exposed results. The same can happen if you haven't switched the camera to your preferred shooting mode or metering pattern, or if you've left the ISO really high.

22 Wrong colours? Wrong white balance…

If you notice a colour cast on your images when you preview them, the chances are that the wrong white balance has been set. Most photographers leave the white balance in its Auto setting, and with good reason: it generally does a decent job of removing colour casts and providing natural-looking results. It can remove some of the character of the light, though, leaching some of the warmth from a sunset shot, for example, and it can also get things wrong under artificial lighting, too.

Auto white balance can also change the colour temperature from shot to shot without the lighting changing very much at all. This can cause problems if you decide to batch-convert a series of shots from the same location, as each image may have to be tweaked individually. To ensure consistency, and speed up your digital workflow, it's worth switching to one of the manual presets, creating a custom white balance or dialling in the colour temperature manually.



Use Live View to preview the effect that changing the white balance has on an image

23 Not checking cards and batteries

How often have you found yourself out shooting only to discover that you only have room for a couple of pictures on the card in the camera? Having to delete images to free up space while out shooting is no fun, and takes time! Try to get into the habit of downloading the contents of your memory cards, and formatting them, every time you return home from a shoot.

Ensure your battery has enough juice to get you through a shoot, too. Excessive use of Live View, playback mode and shooting in cold conditions can all reduce the shooting time considerably, and it certainly makes sense to take a back-up battery in these circumstances.

CArd
Err
RAW
AF-S
A

24 Not using continuous drive mode

While you might expect the single shot drive mode to be a perfectly good choice for general photography, the continuous low or continuous high options can be more effective at giving you sharper, more timely results. With single shot, not only can the action of pressing down and releasing the shutter release produce soft results, but taking your finger fully off the shutter release can cause the camera to refocus the lens – although you can get round this by configuring the camera so that the AF function is removed from the shutter release.

M
A
S
P
U2
U1
SCENE
AUTO
CL
CH
Q

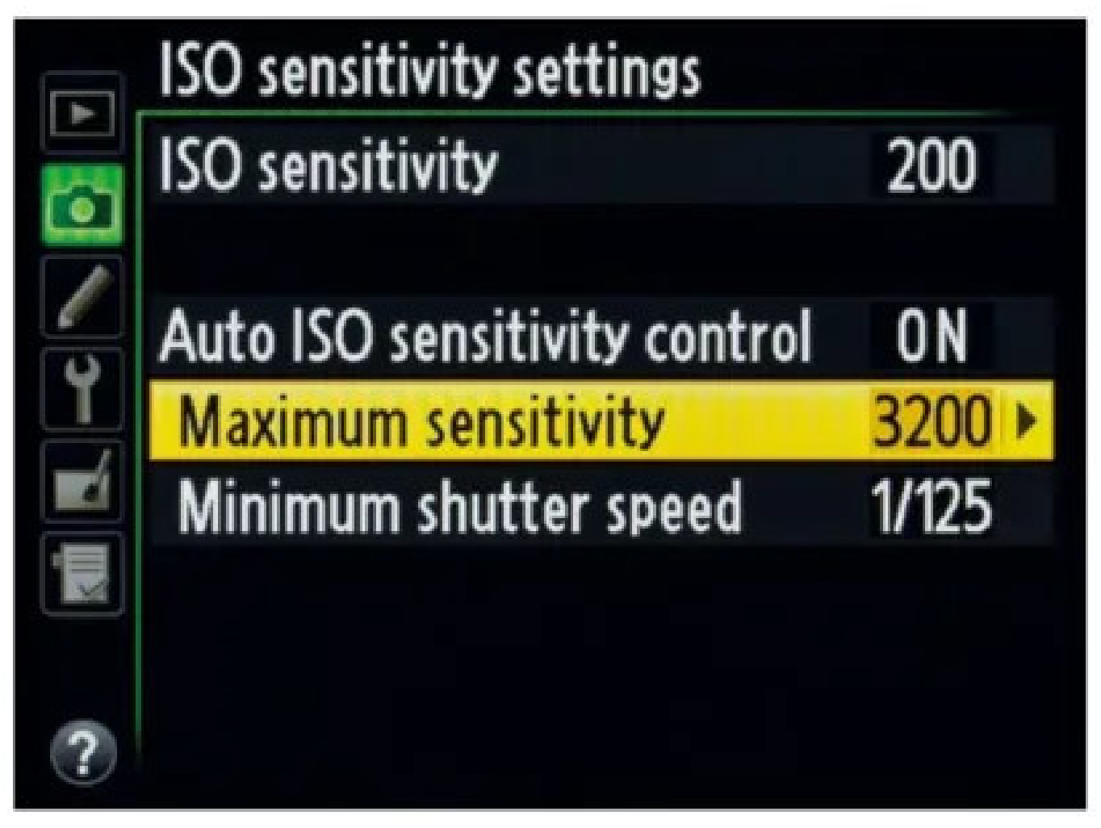
25

Not making the most of Auto ISO

While some photographers turn their noses up at the thought of using Auto ISO, concerned that the camera will opt for a sensitivity that's unnecessarily high for the conditions, it's actually very useful. The Auto ISO function can be tailored so that the camera is unable to push the ISO higher than a sensitivity you've dialled in, and you can also set the minimum shutter speed you need, improving your chances of taking sharp handheld photos.

It also adds flexibility in manual mode, enabling you to set a combination of aperture and shutter speed to give you the look you want, with the camera then adjusting the ISO to keep the exposure consistent as the light changes.

Use the Auto ISO menu to fix the highest ISO that the camera can choose



ISO sensitivity settings
ISO sensitivity 200
Auto ISO sensitivity control ON
Maximum sensitivity 3200
Minimum shutter speed 1/125

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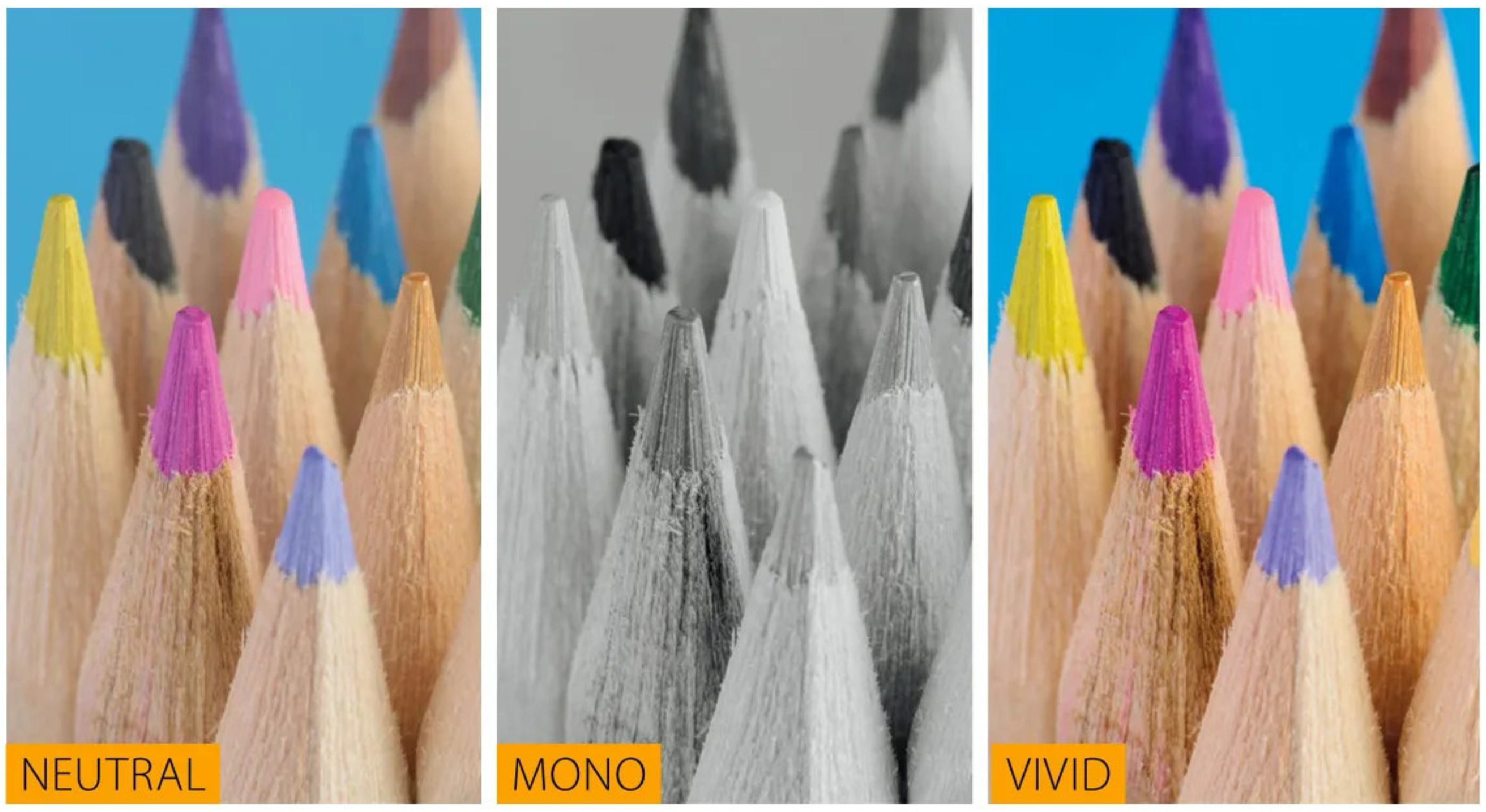
Not making the most of Picture Controls

Don't leave the Picture Control setting in its Standard position for every shot. By shooting in RAW, you can preview the effect that a Picture Control has on an image during Live View or playback, but the original image will remain unaffected. This is particularly useful when shooting for black and white: using the Monochrome Picture Control enables you to judge how a picture will work in greyscale, while the RAW file will be saved with all the colour information intact. This allows you to carry out the conversion later.

It's a different matter when you shoot JPEGs, as the Picture Control is 'baked' into the file. If you don't like the look delivered by the Picture Control you've set, you can try to fix things in Photoshop, but image quality will suffer. It's important to get a handle on Picture Control when shooting HD video too, because every frame of a movie is basically a JPEG image, so colour, contrast and sharpness are fixed at the time you record the footage. Filmmakers tend to use the Neutral or Flat Picture Controls, as these give low-contrast results that hold up better to enhancements in video-editing software.



If you shoot in RAW, the image will retain all its colour information, enabling you to visualise how an effect will work – but if you want to change it later, you can still do so

Not making the most of U1 and U2

SCENE
U1
U2
P
S
A
M
S CL CH

27

Some Nikon SLRs enable you to create your own user-settings modes, which allow you to bring up a specific camera configuration at the touch of a button (or turn of a dial). If you're the kind of photographer who sticks to aperture-priority mode for 99 per cent of their photography, then you may not have explored this option, but you're missing out on one of the camera's more convenient aspects. One particularly handy way it can make a difference is in enabling you to set up a dedicated 'movie' mode, which allows you to optimise the autofocus and other key settings without having to delve into the menu and make adjustments each time you want to shoot a video clip.

Overusing Active D-Lighting

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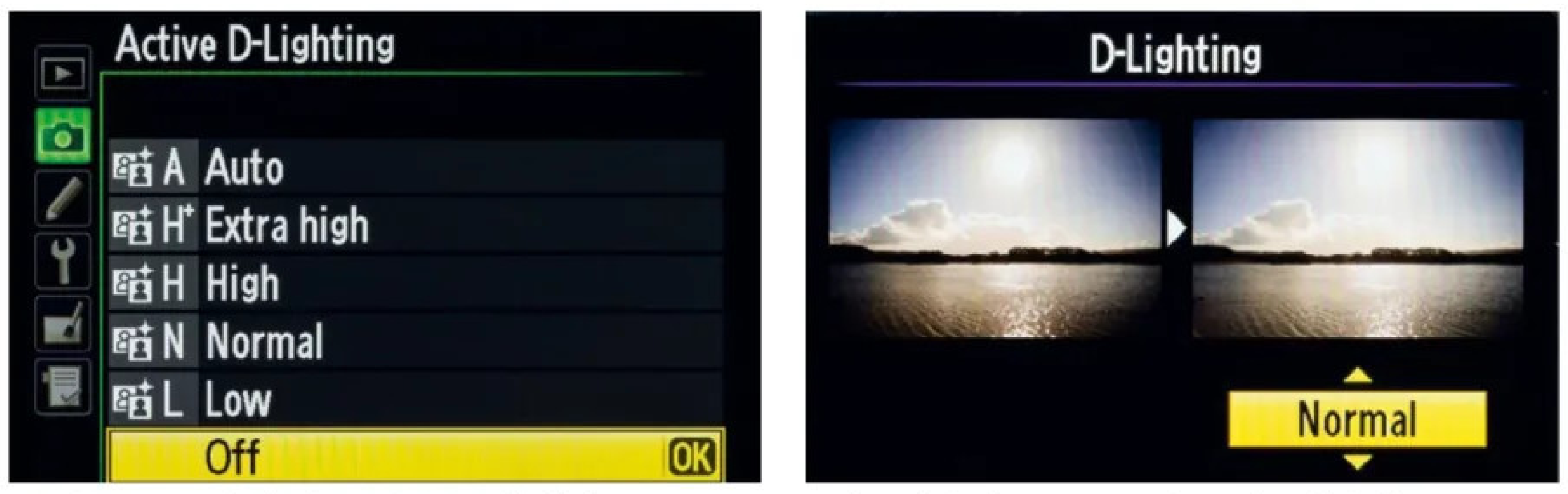
Nikon's Active D-Lighting can be a great option for automatically adjusting brightness and contrast – it's useful in situations where you'd struggle to reveal detail in both the highlights and the shadows of an image, particularly where you can't use an ND grad or can't face additional editing work later. However, it can make low-contrast scenes look flat, and it can also cause problems if you're applying exposure compensation – a shot may still appear too bright, even though you might have dialled in some negative exposure compensation. As a result, it may be worth de-activating Active D-Lighting in these situations.



Active D-Lighting
A Auto
H* Extra high
H High
N Normal
L Low
Off OK

D-Lighting
Normal

Active D-Lighting is useful, but reserve the highest setting for high-contrast lighting, and de-activate it for low-contrast subjects. You can always apply it later when you process shots

Not using the 'correct' focal length

While they're capable of delivering dramatic results, wide-angle lenses need to be used with care as they can also deliver peculiar results – when used close up to shoot a portrait, for example, they can end up distorting a person's features. They can also make backgrounds seem small and insignificant in landscapes. While sometimes you might want to play with a portrait and have fun with the effect, as a rule it's not what most people having their photos taken appreciate. For both portraits and landscapes, switching to a lens with a slightly longer focal length and shooting from farther away may be more desirable.

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Processing

Editing your images

How you edit images is key to professional-looking shots

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Not processing an image

It's rare that a JPEG image straight out of the camera requires no subsequent work. To get an image looking its best, you may need to tweak the levels, fix a colour cast, add some additional sharpening or crop it for a better composition. If you shoot RAW files then you have to process the images yourself, which adds time to your workflow, but at least you'll be starting with the highest-quality file that your camera can produce, and any changes that you make are never permanently applied to the original image.

Images can appear flat straight out of the camera, even when you're shooting in JPEG format. Most images require some editing, even if it's just sharpening and adding contrast

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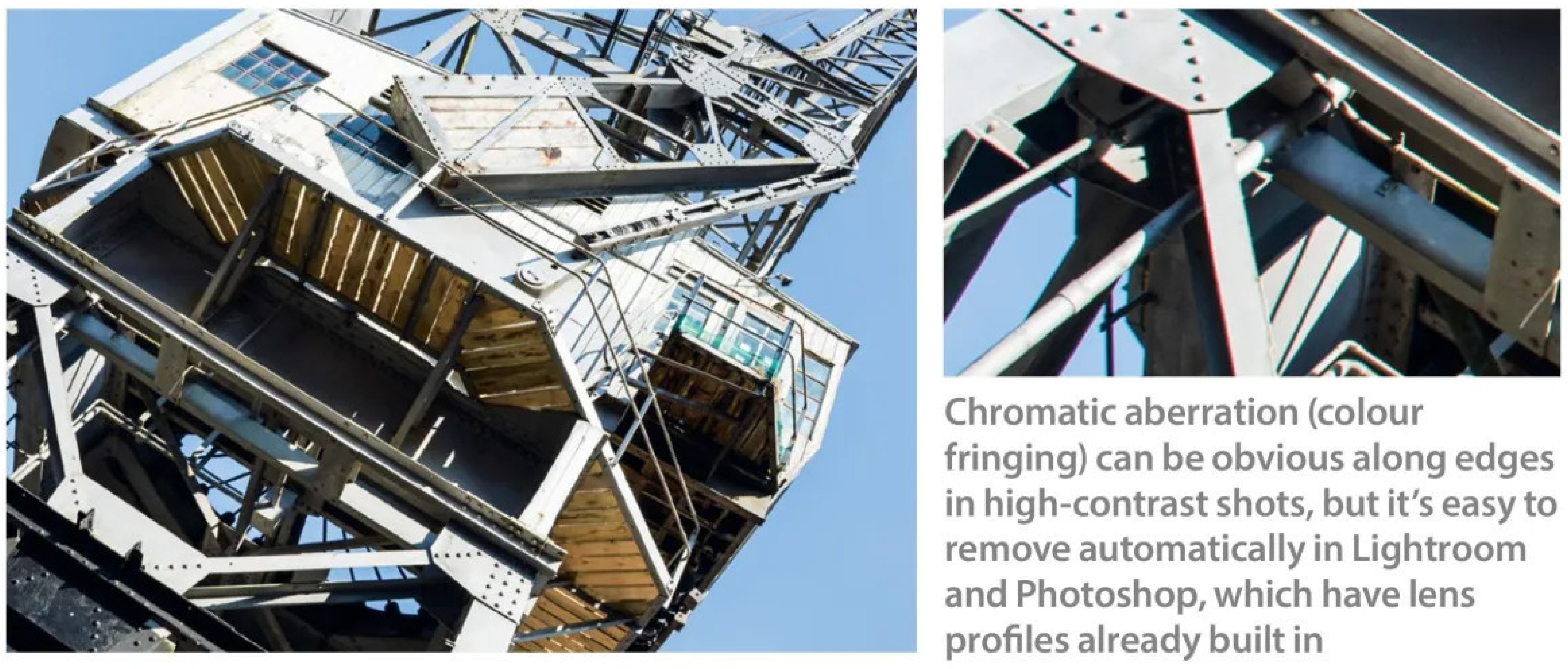
Forgetting to fix lens problems

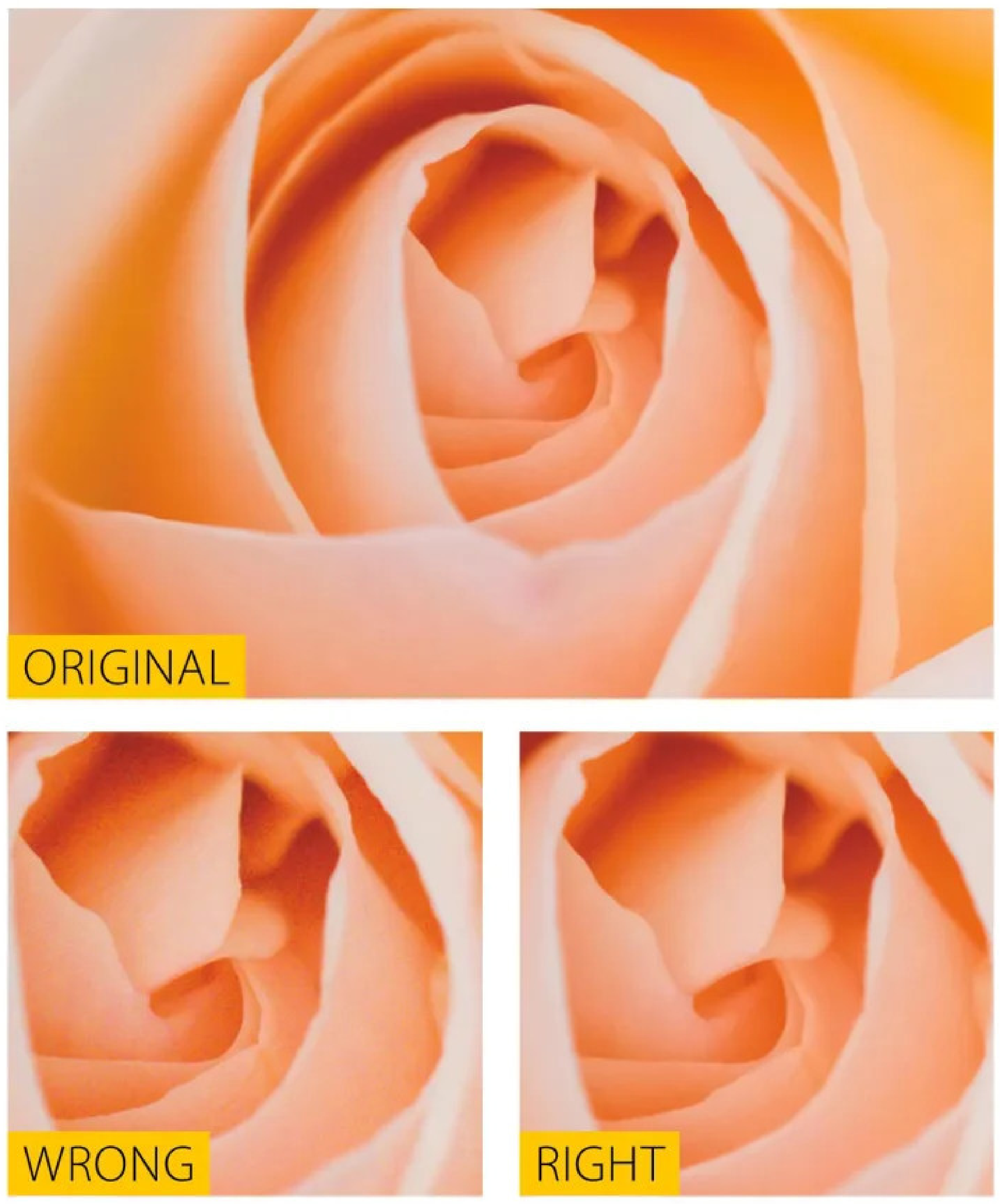
Lens distortion can create a myriad of problems, so make this the first adjustment you apply when you process an image. If you don't fix distortion, then images may not appear as sharp; lines that should appear straight, such as the horizon, will appear to bow; and the corners of an image may be darker than its centre.

You can apply some lens corrections in-camera, such as using Vignette Control to reduce the amount of corner-shading a lens exhibits (typically a problem with fast lenses), but carrying out the adjustments post-shoot gives you more control. If you do plan to apply lens corrections, then compose wider than normal, particularly with a wide-angle lens, as the stretching and cropping that occurs can slice a surprising amount from the edge of the picture.



Chromatic aberration (colour fringing) can be obvious along edges in high-contrast shots, but it's easy to remove automatically in Lightroom and Photoshop, which have lens profiles already built in

Always view an image at full size when applying noise reduction, otherwise you won't be able to judge its effectiveness



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Not viewing images at 100%

Whenever you edit images, zoom in and check the image at 100% when carrying out edits that require a certain level of precision, such as sharpening, noise reduction and cloning out sensor spots. In some cases, the changes will only be visible when you're viewing the image at this level of magnification. It's also worth doing this after you've carried out changes to colour saturation or contrast, in order to check that details are still visible and colour gradation is still smooth.

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Getting heavy-handed with image manipulation

Although most images benefit from some post-production work, subtlety is often the key. Trying to fix very over- or under-exposed pictures can look obvious, while boosting saturation and sharpness too high will give pictures a 'digital' look. After all, the best photography is about capturing the world as you see it, not as you imagine it to be...

Nikon for Beginners

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Cover images
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Printed in the UK

Distributed by Marketforce, 5 Churchill Place, Canary Wharf, London, E14 5HU
www.marketforce.co.uk - For enquiries, please email:

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Nikon for Beginners Sixth Edition (PTB5364)
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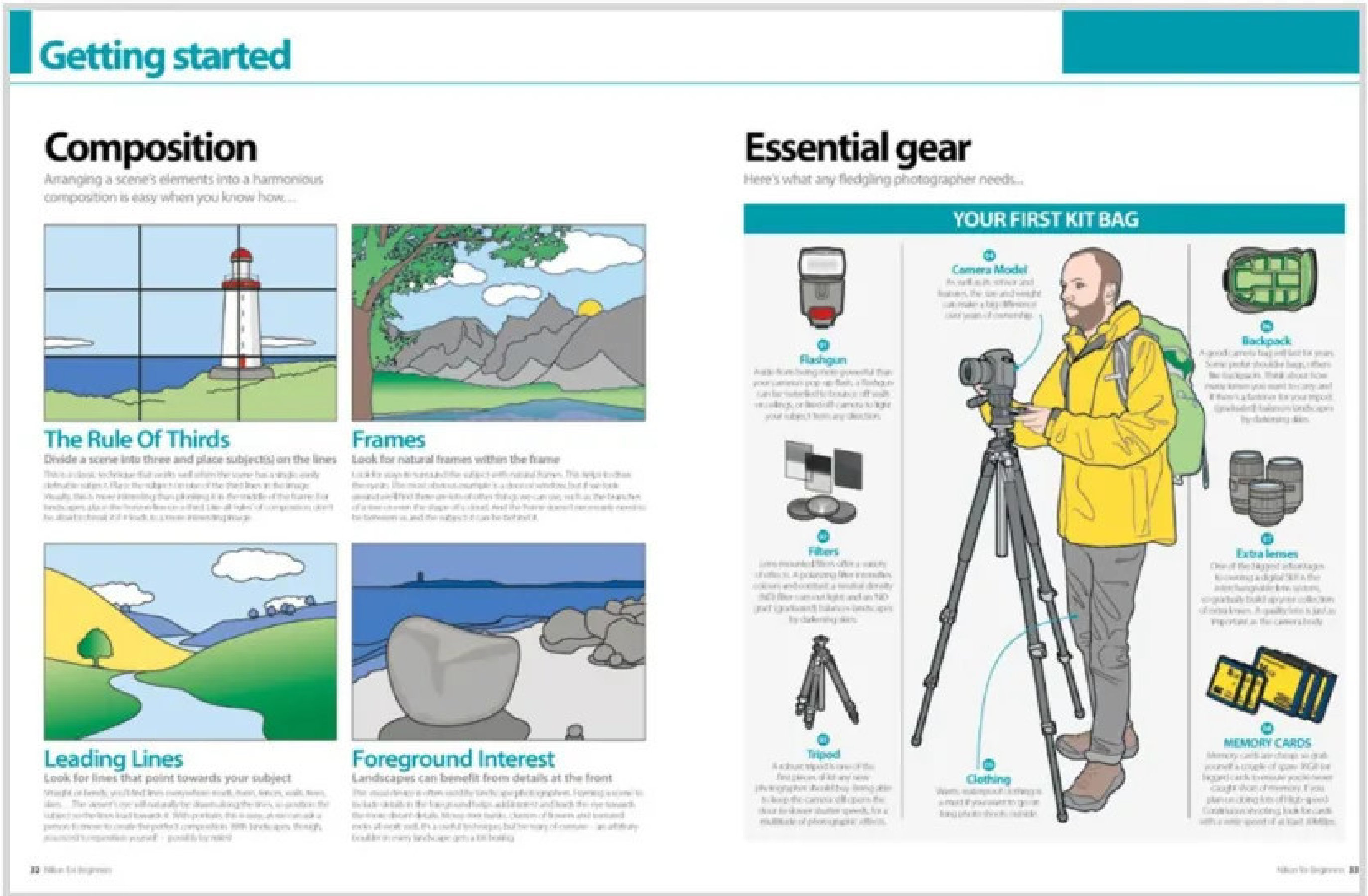
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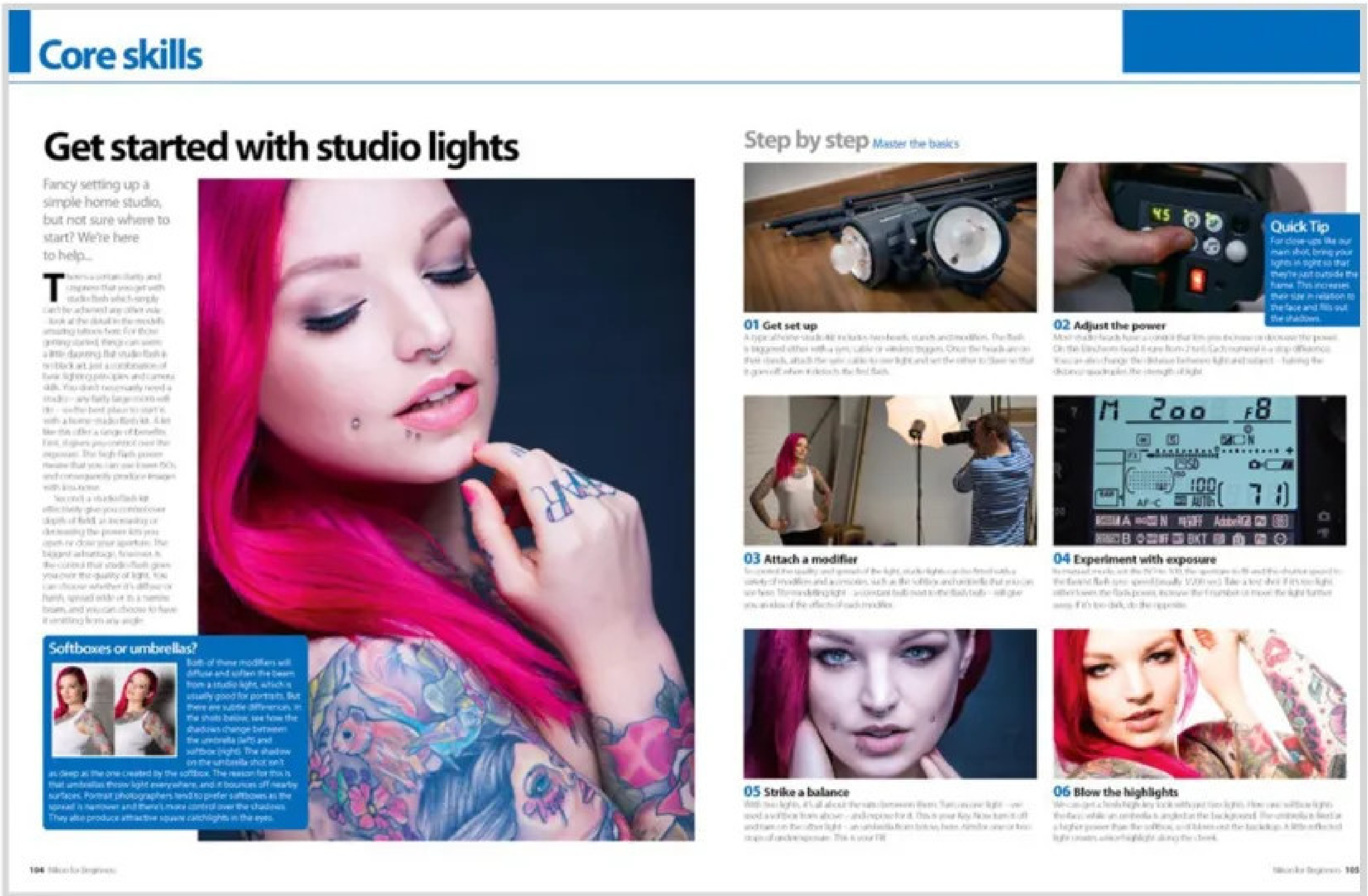
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